

**REPLACE ROOF
HARDWICK FIRE STATION
312 ALLEN MEMORIAL DRIVE SW
MILLEDGEVILLE, GEORGIA**

FOR

**BALDWIN COUNTY BOARD OF COMMISSIONERS
121 N. WILKINSON ST., SUITE 314
MILLEDGEVILLE, GA 31061**

BY

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March 30, 2016

Replace Roof, Hardwick Fire Station, Milledgeville, Georgia
BID # 201524 OPENING: 11:00 AM, May 20, 2106

BID SUBMITTAL CHECKLIST

Important Instructions:

- I. One unbound original and two bound copies of the bid are required to be submitted marked with the bid number, opening time and date on the outside of a sealed envelope and must be typewritten or printed in ink.

- II. All documents below must be included when you submit your bid package **in the order as listed below**. Failure to submit any of items marked below with an asterisk (*) shall cause rejection of the Bid and shall not be considered a minor irregularity.

DOCUMENTATION DESCRIPTION

- * Solicitation Form (page 1 of this document)
- * Addenda (if applicable)
- * Any Requested Documents in Bid Specifications
- * W-9 Form
- * Item Price Schedules (pages XX - XX of this document)
- * Attachments (pages XX - XX of this document)

**Replace Roof, Hardwick Fire Station, Milledgeville, Georgia
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SECTION I – GENERAL OVERVIEW

A. PURPOSE

The Baldwin County Board of Commissioners is accepting bids to

B. GENERAL INSTRUCTIONS, TERMS, AND CONDITIONS

1. Bids Submission

- a. These instructions will bind Bidders to terms and conditions herein set forth, except as specifically stated otherwise in special contract terms with any individual bid. These instructions are to be considered an integral part of the bid.
- b. The Submittal Checklist must be reviewed and the Bidder is to comply with the order of the submittal of documents.
- c. Three (3) **bound complete copies and one (1) clearly marked “Original” of the bid documents must be submitted typewritten or printed in ink. All bids must be filled out legibly with all changes or corrections must be initialed by the person signing the bid. The bid must be manually signed.**
- d. The person, firm or corporation submitting the bid must submit it in a sealed envelope/parcel on or before the date and time stated in this document. The name of the Bidder must be shown in the upper left corner of the bid envelope and the words “BID Response” in the lower left corner.

The envelope shall be mailed or delivered to:

BALDWIN COUNTY BOARD OF COMMISSIONERS

121 N WILKINSON ST., STE 314

MILLEDGEVILLE, GA 31061

BID # 201524

Replace Roof, Hardwick Fire Station, Milledgeville, Georgia

Opening: 11:00 AM, May 20, 2016

- e. Bids may be submitted by mail, common carrier or delivered in person. Fax or electronic bids are not acceptable. It shall be the duty of each Bidder to ensure that their bid is delivered within the time and at the place prescribed in this document. Bids received prior to the time fixed in this bid document will be securely kept unopened. A date/time stamp will be affixed to the envelope/package immediately upon its arrival to the Baldwin County Board of Commissioners Office. Any bid received at the office designated in this document after the exact time and date specified, will not be considered. If a late bid is received via carrier, it will be marked “late bid” and will not be opened. If a late bid is hand delivered, it will be returned unopened to the presenter.
- f. At the date and time specified for the opening of the bid, the bid shall be publicly opened and read aloud for the information of Bidders and others present.
- g. If descriptive literature is attached to the bid, your firm’s name must be on all sheets submitted.
- h. Each bid submitted shall be deemed to have been made with full knowledge of all terms, conditions, and requirements contained in this Bid request. The failure or omission of any Bidder to examine any form, instrument or document shall in no way relieve any Bidder from obligations in respect to the bid submittal or the compliance of the terms, conditions and requirements of the bid.
- i. Individual contractors shall provide their Social Security number and proprietorships; partnerships and corporations shall provide their Federal Employer Identification number on page one of this bid documents and provide a completed W9 form to be submitted with the bid.
- j. The authorized representative whose signature will appear on the bid submitted certifies that

the Bidder has carefully examined the instructions of this bid and the terms and specifications applicable to and made a part of this bid. The Bidder further certifies that the prices shown on the Bid Price Submittal Form is in accordance with the conditions, terms and specifications of the bid and that any exception taken thereto may disqualify the bid.

- k. Bids shall be made on the enclosed form if a form is provided.
- l. Any documentation submitted with or in support of a bid or bid shall become subject to public inspection under the Georgia Open Records Act. Labeling such information “Confidential”, “Proprietary”, or in any other manner shall not protect this material from public inspection upon request. All records become subject to public inspection only after award of the contract or purchase order.

2. Preparation of Bids

- a. Negligence on the part of the Bidder in preparing the bid confers no right for withdrawal or modification in any way after the deadline for the bid opening.
- b. Unit price must be shown on the Bid Cost Submittal Form in this document. All bids should be tabulated, totaled and checked for accuracy. The unit price will prevail in case of errors.
- c. All product, equipment, article or material must be new and unused or current production. No reconditioned or used item(s) will be accepted except as specifically requested herein. Units that are classified as prototype or discontinued models are not acceptable.
- d. Samples of items, when required, must be submitted within the time specified and unless otherwise specified by the County, at no expense to the County. Unless otherwise specified, samples will be returned at the Bidder’s request and expense if items are not destroyed by testing.
- e. Full identification of each item bid upon, including brand name, model, catalog number, etc., must be furnished to identify exactly what the Bidder is offering. Whenever an article or material is defined by describing a proprietary product or by using the name of a manufacturer, the term “or equal” if not inserted shall be implied. The specified article or material shall be understood as indicating the type, function, minimum standard of design, efficiency and quality desired and shall not be construed as to exclude other manufactured products of comparable quality, design and efficiency. In the event that any equivalent version is proposed, prospective Bidders are herewith advised that precise, adequate, and documented evidence of equivalency in performance, stability, and operational efficiency should be submitted with the bid for further consideration. Final determination of equivalency will be determined by Baldwin County.

3. Clarification and Communication to County Concerning Bid

- a. From time to time, the Purchasing Department may have to release written changes to a solicitation. These formal written changes are called addendum or if multiple, Addenda. Although Baldwin County will take reasonable steps to ensure that known perspective Bidders have all applicable addenda, **it is the ultimate responsibility of the Bidder to ensure that they have all applicable addenda prior to the bid/bid submission. Therefore, we encourage all Bidders to frequently review the County’s web site: www.baldwincountyga.com. All addenda forms must be signed and submitted with the bid.** Failure to respond to any addenda or requests for clarification, even after the bid opening, may result in a non-responsive bid.
- b. The successful firm’s bid and all addenda will become a part of the agreement resulting from this document.
- c. Bidders seeking an award of a Baldwin County contract **shall not** initiate or continue any verbal or written communication regarding a solicitation with any County officer, elected official, employee or other County representative without permission of the Purchasing Department between the date of the issuance of the solicitation and the date of the final contract award by the Board of

Commissioners. Violations will be reviewed by the Purchasing Director. If determined that such communication has compromised the competitive process, the offer submitted by the individual, firm or business shall be disqualified from consideration for award. **EXCEPTION** to the above would be emailing request for clarification and/or questions to Brian Wood, P.E. Baldwin County Engineer, Office: (478) 445-4791, bwood@baldwincountyga.com

4. **Pre-Bid Conference**

The Pre-Bid Conference or any other information session (if indicated in the schedule of events) will be held at the offices referred to in the “Schedule of Events” of this bid. Unless indicated otherwise, attendance is not mandatory; although suppliers are strongly encouraged to attend. However, in the event the conference has been identified as mandatory, then a representative of the supplier must attend the conference in its entirety to be considered eligible for contract award.

5. **Rejection and Withdrawal of Bids**

- a. Withdrawal of bid due to errors, the supplier has up to forty-eight (48) hours to notify the Purchasing Department of an obvious clerical error made in calculation of bid in order to withdraw a bid after bid opening. Withdrawal of bid for this reason must be done in writing within the forty-eight hour period.
- b. The County will make a recommendation of the bid/bid to the Board of Commissioners within 60 days from date of the opening.
- c. The County may reject all or part of the bid/bid within 60 days of bid opening.

6. **Bid and Contract Documents**

- a. A bid executed by an attorney or agent on behalf of the Bidder shall be accompanied by an authenticated copy of the Power of Attorney or other evidence of authority to act on behalf of the Bidder.
Corporation: If the Bidder is a corporation, the Corporate Certificate (Attachment A) must be completed. This certificate must be executed under the corporate seal by a duly authorized officer of the corporation. If the Bidder is a corporation, the bid must be submitted in the name of the Corporation, not simply the corporation’s trade name. In addition, the Bidder must indicate the corporate title of the individual signing the bid.
Partnership: If the Bidder is a partnership, all partners must sign the bid with a letter of a partnership certification statement (Attachment A) on company letterhead that they are all the partners. If all the partners do not sign the bid, then the names of all those except limited partners must be furnished on the bid and evidence of the authority of the signer(s) to execute the bid on behalf of the partnership.
- b. The contract documents consist of this Agreement, Specifications and Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement. These form the Contract and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated Agreement between the parties hereto and supersedes prior negotiations, representation or agreements, either written or oral.
- c. Contract Term – The time period of the agreement, if any is formed from this bid, will be determined after the review and evaluation of the Time Line Schedules submitted by the successful Consultant.

7. **Exceptions and Omissions**

If exceptions are taken to any portion of these specifications, such exception must accompany the bid and must be in writing. If any feature normally included in a complete job of this nature is omitted from these specifications, it too must be so stated in writing and be included with the bid.

8. Alterations of Solicitation and Associated Documents

Alterations of County documents are strictly prohibited and will result in automatic disqualification of the Bidder's solicitation response. If there are "exceptions" or comments to any of the solicitation requirements or other language, then the Bidder may make notes to those areas, but may not materially alter any document language.

9. Cost Incurred by Vendors

All expenses involved with the preparation and submission of the bid to the Baldwin County Board of Commissioners, or any work performed in connection therewith is the responsibility of the vendor(s).

10. Codes, Permits, Fees, Licenses and Law

- a. All permits, fees, arrangements for inspections, licenses, and costs incurred for the same shall be the sole responsibility of the successful Bidder. All materials, labor and construction must comply with all applicable rules and regulations of local, state and/or national codes, laws and ordinances of all authorities having jurisdiction over the project, shall apply to the contract throughout and will be deemed to be included in the contract the same as though herein written out in full.
- b. **Effective July 1, 2008:** All General Contractors must have a current valid license from the State Licensing Board for Residential and General Contractors, unless specifically exempted from holding such license pursuant to Georgia law, O.C.G.A. Section 43-41-17.
- c. State Law regarding Worker Verification requires that all who enter into a contract for the physical performance of services with the County must satisfy O.C.G.A. §13-10-91 and Rule 300-10-1-.02, in all manner, and such are conditions of the contract. By submitting a bid to the County contractor agrees that in the event the contractor employs or contracts with any subcontractor(s) in connection with the covered contract, the contractor will secure from the subcontractor(s) such subcontractor(s) indication of the employee-number category applicable to the subcontractor, as well as attestation(s) from such subcontractor(s) that they are in compliance. Such attestation(s) shall be maintained and may be inspected by the County at any time. An affidavit of such compliance included with the bid, must be signed by the contractor, and will become part of the contract.

11. Safety

All vendors and subcontractors performing services are required and shall comply with all Occupational Safety and Health Administration (OSHA), State and County Safety and Occupational Health Standards and any other applicable rules and regulations. Also, all contractors and subcontractors shall be held responsible for the safety of their employees and any unsafe acts or conditions that may cause injury or damage to any persons or property within and around the work site area under this Contract.

12. Design, Standards and Practices

Design, strength, quality of materials and workmanship must conform to the highest standards of engineering practices and/or professional services.

13. Statement of Warranty

A Statement of Warranty should include all applicable manufacturers' warranty and the Contractor's warranty in regards to equipment, materials and workmanship. This statement shall include the terms, conditions and the period of warranty coverage. Any exclusion(s) must be clearly stated.

14. Non-collusion

By submitting a bid in response to this solicitation, the Bidder represents that in the preparation and

submission of this bid, said Bidder did not either directly or indirectly, enter into any combination or arrangement with any person, Bidder, Corporation or enter into any agreement, participate in any collusion, or otherwise take any action in the restraint of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section I or Section 59.1-9.1 through 59.1-9.17 or Sections 59.1 – 68.6 through 59.68.8). Collusion and fraud in bid preparation shall be reported to the State of Georgia Attorney General and the United States Justice Department.

15. Nondiscrimination

Notwithstanding any other provision of this Agreement, during the performance of this Agreement Contractor, for itself, its heirs, personal representatives, successors in interest and assigns, as part of the consideration of this Agreement does hereby covenant and agree, as a covenant running with the land, that:

- a. No person on the grounds of race, color, religion, sex or national origin shall be excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination;
- b. In the production of the vehicle(s), and the furnishing of services therein or thereon, no person on the grounds of race, color, religion, sex or national origin shall be excluded from participation in, or denied the benefits of, such activities, or otherwise be subjected to discrimination.

16. Drug Free Workplace Certification

By signing the Supply Service Contract form, the Contractor certifies that the provisions of Code Sections 50-24-1 through 50-24-6 of the Official Code of Georgia Annotated, relating to the “Drug-free Workplace Act”, have been complied with in full. The undersigned further certifies that:

- a. A drug-free workplace will be provided for the Contractor’s employees during performance of the contract; and
- b. Each Contractor who hires a subcontractor to work in a drug-free work place shall secure from that subcontractor the following written certification:
“As part of the subcontracting agreement with (Contractor’s name), (Subcontractor’s name) certifies to the Contractor that a drug-free workplace will be provided for the subcontractor’s employees during the performance of this Contract pursuant to Paragraph (7) of Sub-section (b) of Code Section 50-24-3”.
- c. The Contractor further certifies that he will not engage in the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana during the performance of the Contract.
- d. Contractor may be suspended, terminated, or debarred if it is determined that:
 - (1) The Contractor has made false certification hereinabove; or
 - (2) The Contractor has violated such certification by failure to carry out the requirements of the Official Code of Georgia Section 50-24-3.

17. Georgia Security and Immigration Compliance Act

Pursuant to the Georgia Security and Immigration Compliance Act of 2006, the successful Contractor understands and agrees that compliance with the requirements of O.C.G.A.13-10-91 and Georgia Department of Labor Rule 300-10-02 are conditions of this bid and contract document. The Contractor further agrees that such compliance shall be attested by the Contractor and any of his Subcontractors by execution of the appropriate Affidavit and Agreement which will be included and become a part of the Agreement between Henry County and the successful Contractor.

18. Systematic Alien Verification for Entitlements (SAVE) Program

Since a contract has been deemed a “public benefit,” the contractor or other party to the contract must be run through the federal Systematic Alien Verification for Entitlements (SAVE) Program. This program requires that local government verify the legal status of non-U.S. citizens who apply for

certain benefits. The contractor must execute a SAVE affidavit attesting that either he or she is a U.S. citizen or legally qualified to receive the benefit. If the contractor is not a U.S. citizen, then the local government has to run that contractor through the SAVE system. Only non-U.S. citizens can be processed through the SAVE program.

19. Delivery and F.O.B. Destination

- a. All prices shall include shipping and delivery cost to our destination; F.O.B., Baldwin County, Georgia, unless otherwise requested. The Bidder shall handle all material procurement, storage and delivery to project site. Unless otherwise specified in this specification, Bidder shall supply all materials required. The County will grant no allowance for boxing, crating or delivery unless specifically provided for in this bid. The Bidder shall retain title for the risk of transportation, including the filing for loss or damages.
- b. The County desires delivery of the product(s) or service(s) as specified at the earliest possible time after the date of award. Unreasonable delivery may be cause for disqualifying a bid. Each firm shall state a definite delivery time and avoid using general terms such as "ASAP" or approximately so many days.

20. Discounts

Cash discounts for early payment (i.e. 2%-10) or Net 30 terms should be shown separately, even if terms are Net.

21. County's Tax Exemption

Baldwin County is exempt from Federal Excise Tax or Georgia Sales Tax with regard to goods and services purchased directly by Baldwin County. Exemption certificates furnished upon request.

22. Award of Contract

- a. Baldwin County desires to complete the award process in a timely manner. Baldwin County reserves the right to reject or accept any or all bid/bids, whole or any parts hereof, by item or group of items, by section or geographic area, or make multiple awards and be the final approval of bid(s) selection which would be the most advantageous to the County with price and other factors considered. Baldwin County may elect to waive any technicalities. The bid will be awarded to the lowest responsive, responsible or highest scored Bidder(s), if awarded. The bid specifications and results will be available on the County's web site: **XXXX**.
- b. Baldwin County reserves the right to reject any bid if the evidence submitted by or investigation of, the Bidder fails to satisfy the County that the Bidder is properly qualified to carry out the obligations of the Contract. If the successful Bidder defaults on their bid, an award may be made to the next low responsive and responsible Bidder.

Responsibility - The determination of the Bidder's responsibility will be made by the County based on whether the Bidder meets the following minimum standard requirements:

- Maintains a physical location presence and permanent place of business.
- Has the appropriate and adequate technical experience required.
 - Has adequate personnel and equipment to perform the work expeditiously
 - Able to comply with the required or proposed delivery and installation schedule.
- Has a satisfactory record of performance.
 - The ability of Bidder to provide future maintenance and service for the use of the contract under consideration.
 - Has adequate financial means to meet obligations incidental to the work.
 - Such other factors as appear to be pertinent to either the bid or the contract.

Responsiveness - The determination of the Bidder's responsiveness will be made by the County based on a consideration of whether the Bidder has submitted complete bid documents

meeting bid requirements without irregularities, excisions, special conditions, or alternatives bids for any item unless specifically requested in the bid solicitation.

- c. Baldwin County is subject to making records available for disclosure after the Board of Commissioners approval of the recommendation. The award shall be made by the Board of Commissioners of Baldwin County. No claim shall be made by the selected Consultant for loss of profit if the contract is not awarded or awarded for less work than is indicated and for less than the amount of the bid. The total of the awarded contract shall not exceed the available funds allocated for the bid project.

23. Local Vendor Privilege

- a. There is established in Baldwin County, a local vendor privilege. Bids or bids awarded to local vendors contribute to the local tax base and will therefore be given special consideration when bidding against out-of-jurisdiction (out-of-county) vendors. Bids or bids received from local vendors will be given preference if such bid or bid is responsive and within five (5) percent of the low bid submitted by any out-of-county bidder. In such instance, the local vendor will be given the opportunity to match the low bid offered by the out-of-county vendor. If such local vendor agrees to match the low bid received from the out-of-county vendor within the time specified by the county, the bid shall be awarded to the local vendor.
- b. A local vendor shall only be eligible to receive the benefit of this privilege if it meets each of the following requirements prior to any award of a contract or purchase:
 - 1. The business or supplier must operate and maintain a regular place of business within the geographical boundaries of Baldwin County; and
 - 2. The business or supplier must have a current occupational tax certificate; and
 - 3. The business or supplier must have paid all real and personal taxes owed the county; and
 - 4. The business or supplier must certify its compliance with the Georgia Security and Immigration Act.
- c. This policy shall not apply to any bid or bid for material, equipment or services in excess of one hundred thousand dollars (\$100,000.00). In such cases, the bid award shall be subject to the competitive bidding requirements as otherwise provided herein or general law.

24. County Direction of Project Site and Monitoring of Work

- a. The Contractor may have a Project Coordinator, but the project site shall remain under the control of Baldwin County. The Contractor shall provide and make available an appointee to Baldwin County for project coordination and supervision of Bidder installation personnel. Coordination consist of meeting with the Baldwin County representatives to review the project; on site walk throughout of installation area(s) before the installation begins; review installation procedures; review installation progress and to handle any problems during installation until project completion.
- b. The successful Bidder will promptly correct all work rejected by the County as faulty, defective, or failing to conform to the Minimum Specifications and/or to consensus standards adopted by both government and industry governing the repairs, whether observed before or after substantial completion of the work, and whether or not fabricated, installed, or completed. The successful Bidder will bear all costs of correcting such rejected work.
- c. The Contractor shall insure all trash generated by work performed shall be removed from the site and properly disposed as each work operation is completed in a given area. Additionally, the Contractor shall ensure all disturbances to the area where the Contractor performed work are restored to the same condition prior to start of the project. If an inspection reveals that the Contractor fails to clean up after work has been performed. The County will notify the Contractor of the discrepancy and the Contractor will have twenty-four (24) hours to make the correction. Should the Contractor still fails to clean the area, the County reserves the right to

make other arrangements to have the area cleaned and the County shall deduct the cost from the Contractor's invoice.

- d. No one except authorized employees of the Contractor is allowed on the premises of Baldwin County facilities. Contractor employees are not to be accompanied in their work area by acquaintances, family members, assistants, or any other person unless said person is an authorized employee of the Contractor.
- e. All information disclosed by Baldwin County to the successful Contractor for the purpose of the work to be done or information that comes to the attention of the successful Contractor during the course of performing such work is to be kept strictly confidential.

25. Indemnification

- a. The vendor that is selected as the contractor shall, at its own expense, protect, defend, indemnify, save and hold harmless Baldwin County and its elected and appointed officers, employees, servants and agents from all claims, damages, lawsuits, costs and expenses including, but not limited to, all costs from administrative proceedings, court costs and attorney fees that Baldwin County and its elected and appointed officers, employees, servants and agents may incur as a result of the acts, omissions or negligence of the contractor or its employees, servants, agents or subcontractors that may arise out of the agreement.
- b. The contractor's indemnification responsibility under this section shall include the sum of damages, costs and expenses which are in excess of the sum of damages, costs and expenses which are paid out in behalf of or reimbursed to the County, its officers, employees, servants and agents by the insurance coverage obtained and/or maintained by the contractor.

26. Controlling Law, Venue

Any dispute arising as a result of this bid and/or an Agreement which was created from the terms, conditions and specifications of this document or their interpretation, litigation shall only be entered into and shall be performed in Baldwin County, Georgia. This Agreement shall be governed by the applicable laws of the County of Baldwin and the State of Georgia. Any dispute arising out of the agreement, this bid solicitation, its interpretations, or its performance shall be litigated only in the County of Baldwin Judicial Courts.

27. Contractor as Independent Contractor

In conducting its business hereunder, Contractor acts as an independent contractor and not as an employee or agent of County. The selection, retention, assignment, direction and payment of Contractor's employees shall be the sole responsibility of Contractor.

28. Assignment

The Agreement, in whole or any part hereof, created by the award to the successful contractor shall not be sold, not be assigned or transferred by Contractor by process or operation of law or in any other manner whatsoever, including intra-corporate transfers or reorganizations between or among a subsidiary of Contractor, or with a business entity which is merged or consolidated with Contractor or which purchases a majority or controlling interest in the ownership or assets of Contractor without the prior written consent of Baldwin County.

29. Performance of Contract

- a. Baldwin County reserves the right to enforce the Contractor's performance of this Agreement in any manner prescribed by law or deemed to be in the best interest of the County in the event of breach or default or resulting contract award. It will be understood that time is of the essence in the Bidder's performance.
- b. The successful Contractor shall execute the entire work described in the Contract Documents,

except to the extent specifically indicated in the Contract documents to be the responsibility of others.

- c. The Contractor accepts the relationship of trust and confidence established by the award of this bid solicitation. The Contractor covenants with the County to utilize the Contractor's best skill, efforts and judgment in furthering the interest of the County; to furnish efficient business administration and supervision; to make best efforts to furnish at all times an adequate supply of workers and materials; and to perform the work in the best way and most expeditious and economical manner consistent with the interest of the County,
- d. All purchases for goods or services are subject to the availability of funds for this particular purpose.

30. Default and Termination

a. Termination by Contractor

The agreement resulting from this bid shall be subject to termination by Contractor in the event of any one or more of the following events: The default by County in the performance of any of the terms, covenants or conditions of this Agreement, and the failure of County to remedy, or undertake to remedy such default, for a period of thirty (30) days after receipt of notice from Contractor to remedy the same.

b. Termination by County

The agreement resulting from this bid shall be subject to termination by the County at any time in the opinion of the County; the contractor fails to carry out the contract provisions of any one or more of the following events:

- (1) The default by Contractor in the performance of any of the terms, covenants or conditions of the Agreement, and the failure of Contractor to remedy, or undertake to remedy with sufficient forces and to the County's reasonable satisfaction, the County shall provide the vendor with notice of any conditions which violate or endanger the performance of the Agreement. If after such notice the Contractor fails to remedy such conditions within thirty (30) days to the satisfaction of the County, the County may exercise their option in writing to terminate the Agreement without further notice to the Contractor and order the Contractor to stop work immediately and vacate the premises, to cancel ordered products and/or services with no expense to the County.
- (2) Contractor files a voluntary petition in bankruptcy, including a reorganization plan, makes a general or other assignment for the benefit of creditors, is adjudicated as bankrupt or if a receiver is appointed for the benefit of creditors, is adjudicated as bankrupt or if a receiver is appointed for the property or affairs of Contractor and such receivership is not vacated within thirty (30) days after the appointment of such receiver.
- (3) Contractors' failure to conduct services according to the approved bid specifications.
- (4) Contractors' failure to keep, perform, or observe any other term or condition of this Agreement.
- (5) Contractor's performance of the contract is unreasonably delayed.
- (6) Should the successful Bidder fail to provide the commodities or services when ordered, and in accordance with the General Terms and Conditions, specifications and any other requirements contained herein are not met, the County reserves the right to purchase commodities or services covered by this contract elsewhere if available from an alternate source.
- (7) The Contractor agrees by its bid submission that the County's decision is final and valid.

c. Force Majeure

Neither party shall be held to be in breach of the Agreement resulting from this bid, because of any failure to perform any of its obligations hereunder if said failure is due to any act of God,

fire, flood, accident, strike, riot, insurrection, war, or any other cause over which that party has no control. Such party shall give notice and full particulars of such Force Majeure in writing to the other party within a reasonable time after occurrence of the event and the obligation of the party giving such notice shall endeavor to remove or overcome such inability with all reasonable dispatch.

d. **Waiver**

The waiver of any breach, violation or default in or with respect to the performance or observance of the covenants and conditions contained herein shall not be taken to constitute a waiver any subsequent breach, violation or default in or with respect to the same or any other covenant or condition hereof.

31. Invoices

Invoices and/or statements should not be faxed but originals must be mailed directly to:

Baldwin County Board of Commissioners
121 N Wilkinson St., Ste 314
Milledgeville, GA 31061

The following information must appear on all invoices submitted:

- Name and address of successful Bidder;
- Detailed breakdown of all charges for the services or products delivered stating any applicable period of time;
- Baldwin County's Purchase Order Number and Bid Package number;
- Invoices shall be based upon actual services rendered, actual work performance and/or products delivered.

32. Payment

Payment shall be tendered to the successful Bidder upon acceptance and approval by the County for satisfactory compliance with the general terms, conditions and specifications of the bid; by completed services; verification of delivery of products; assurance that the product/service performs as specified and warranted; and receipt of a valid invoice.

II SPECIFICATIONS

ATTACHMENT A

CORPORATE CERTIFICATE

Corporations

I, _____, certify that I am the _____ (title) of the Corporation named as Contractor in the forgoing Bid; that _____, who signed said Bid on behalf of the Contractor of said Corporation; that said Bid was duly signed for and on behalf of said Corporation by authority of its Board of Directors, and is within the scope of its corporate powers; that said Corporation is organized under the laws of the State of _____.

This _____ day of _____, 20 _____.

(Printed Name)

(Signature)

(Corporate Seal must be affixed above)

Partnership or other entities:

I, _____, certify that I am authorized to sign to commit _____ named a Contractor in the foregoing Bid. That said company is formed under the laws of the State of _____.

This _____ day of _____, 20 _____.

(Printed Name)

(Signature)

(NOTE: It is necessary to attach to the bid submittal, a letter on company letterhead and dated on or after the date of this certificate stating that the individual signing to commit the partnership or other entity not a corporation to the stipulations of this bid is authorized to do so. The letter should be signed by an individual working for the company who has knowledge of this fact).

ATTACHMENT B

BID AUTHORIZATION AFFIDAVIT

STATE OF GEORGIA
COUNTY OF BALDWIN

BEFORE ME, the undersigned authority a Notary Public in and for the State of _____, on this day personally appeared _____ who, after having first been duly sworn, upon oath did depose and say; that the forgoing bid submitted by _____ hereafter called "Bidder" is duly authorized agent of said company and that the person signing said bid has been duly authorized to execute the same. Bidder affirms that they are duly authorized to execute this Agreement, that this company, corporation, firm, partnership or individual has not prepared this bid in collusion with any other Bidder, and that the contents of this bid as to prices, terms or conditions of said bid have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this bid.

The undersigned certifies that the bid prices contained in this bid have been carefully checked and are submitted as correct and final and if bid is accepted, agrees to furnish the articles and/or services listed and offered in this document at the prices and terms stated, subject to the conditions and specifications of this Request for Bid.

Bidder Information:

(Company)	(Signature)
(Address)	(Printed Name)
(City, State, Zip)	(Title)

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ day of _____ 2012

Notary Public in and for the State of _____

(Seal)
(FAILURE TO SIGN THIS SECTION SHALL DISQUALIFY YOUR RESPONSE)

ATTACHMENT C

NON-CONFLICT OF INTEREST

By submitting an offer in response to this solicitation, the Firm represents that in the preparation and submission of this proposal, said Firm did not either directly or indirectly, enter into any combination or arrangement with any person, Proposer, Corporation or enter into any agreement, participate in any collusion, or otherwise take any action in the restraint of free, competitive bidding in violation of the Sherman Act (15 U.S.C. Section I or Section 59.1-9.1 through 59.1-9.17 or Sections 59.1 – 68.6 through 59.68.8). Collusion and fraud in proposal preparation shall be reported to the State of Georgia Attorney General and the United States Justice Department.

_____ (Officer of Firm) certifies that to the best of our knowledge, no circumstances exist which shall cause a conflict of interest in performing services for Baldwin County, and that no company or person other than bona fide employees working solely for our firm has been employed or retained to solicit or secure an agreement resulting from this request for proposal.

Signature: _____

Type Name: _____

Title: _____

Firm Address: _____

ATTACHMENT D

BIDDER'S QUALIFICATION SHEET
Page 1 of 2

COMPANY NAME: _____

NAME _____ TITLE _____

ADDRESS _____ CITY _____ ST _____ ZIP _____

PHONE _____ FAX _____ E-MAIL _____

1. Number of years experience Bidder has providing products/services as per specifications. _____
2. Name and address of government agencies/companies in the past five (5) years that you have provided products/services as per specifications. Indicate date/year of contracts and person to contact for reference. Bidder must complete all information below.
3. Number of employees specifically hired by Bidder to provide product(s) and/or services as specified in this document. Supervisory _____ Laborers _____ Other _____
4. Please list four (4) references of current customers who can verify the quality of service your firm provides. The County prefers customers of similar size and scope of work to this bid.

REFERENCE ONE

Government/Company Name _____

Address _____

Contact Person and Title _____

Phone _____ Fax _____

Contract Period _____ Scope of Work _____

REFERENCE TWO

Government/Company Name _____

Address _____

Contact Person and Title _____

Phone _____ Fax _____

Contract Period _____ Scope of Work _____

BIDDER'S QUALIFICATION SHEET

Page 2 of 2

REFERENCE THREE

Government/Company Name _____

Address _____

Contact Person and Title _____

Phone _____ Fax _____

Contract Period _____ Scope of Work _____

REFERENCE FOUR

Government/Company Name _____

Address _____

Contact Person and Title _____

Phone _____ Fax _____

Contract Period _____ Scope of Work _____

Information of Person who prepared this form:

Printed Name

Title

Signature

Date

ATTACHMENT F

**GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT
AFFIDAVIT AND AGREEMENT**

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the Baldwin County Board of Commissioners has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

Federal Work Authorization/ E-Verify User Identification Number

Date of Authorization

Name of Contractor

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on _____, ____, 2012 in _____ (city), _____ (state).

Signature of Authorized Officer or Agent

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 2012.

NOTARY PUBLIC

My Commission Expires:

ATTACHMENT G

SAVE AFFIDAVIT

REQUIRED FOR LOCAL GOVERNMENT THAT MUST BE EXECUTED BY ANYONE ENTERING INTO A CONTRACT WITH A LOCAL GOVERNMENT

STATE OF GEORGIA
BALDWIN COUNTY

By executing this affidavit under oath, as an applicant for a Baldwin County, Georgia contract as referenced in O.C.G.A. § 50-36-1 and the August 1, 2010, "Report of the Attorney General on Public Benefits," I am stating the following with respect to my ability to enter into a contract with Baldwin County:

[Name of natural person applying on behalf of individual, business, corporation, partnership or other private entity]

As a representative of: _____
(Name of the business, corporation, partnership, or other private entity)

- 1) _____ I am a United States citizen
OR
2) _____ I am a legal permanent resident 18 years of age or older or I am an otherwise qualified alien or non-immigrant under the Federal Immigration and Nationality Act 18 years of age or older and lawfully present in the United States.*

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of O.C.G.A. § 16-10-20.

This ____ day of _____, 20____.

Signature of Applicant: _____

Printed Name: _____

SUBSCRIBED AND SWORN
BEFORE ME ON THIS THE
____ DAY OF _____, 20__

Notary Public
My Commission Expires:

***Note:** O.C.G.A. § 50-36-1(e)(2) requires that aliens under the federal Immigration and Nationality Act, Title 8 U.S.C., as amended, provide their alien registration number. Because legal permanent residents are included in the federal definition of "alien," legal permanent residents must also provide their alien registration number. Qualified aliens that do not have an alien registration number may supply another identifying number below:

Alien Registration number for non-citizens: * _____

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-- End of Project Table of Contents --

SECTION 00 11 15

PREQUALIFICATION OF BIDDERS

1.1 NOTIFICATION

- A. Notice to Prospective Bidders: Owner will receive Submittal of Qualifications from contractors interested in submitting construction bids on Project(s) described in this document, until the time and date given below.
- B. Owner: Baldwin County Board of Commissioners.
 - 1. Owner's Representative: Brian Wood, P.E., Baldwin County Engineer, 121 Nth Wilkinson Street, Suite 314, Milledgeville, Georgia 31061, Office: (478)445-4791, bwood@baldwincountyga.com

1.2 PROJECT INFORMATION

- A. See Specification Section 00020 "Invitation to Bids" for Project information.
- B. Project Identification: Replace Roof Hardwick Fire Station, Milledgeville, Georgia
 - 1. Project Location: 312 Allen Memorial Dr SW, Milledgeville, GA 31061.
- C. Project Description: Project consists of the installation of a standing seam metal retrofit roof system.

1.3 SUBMITTAL OF PROSPECTIVE BIDDERS' QUALIFICATIONS

- A. Owner will receive Submittal of Qualifications until the time and date at the location given below. Owner will consider submittals prepared in compliance with the requirements outlined below, and delivered as follows:
 - 1. Date: May 6, 2016.
 - 2. Time: 10:00 a.m., local time.
 - 3. Location: 312 Allen Memorial Drive SW, Milledgeville, GA 31061.
- B. Submittals of Qualifications will thereafter be evaluated by Owner and the names of the prequalified bidders will thereafter be published in an addendum. Prospective Bidders' qualification information shall be considered privileged and confidential.

1.4 PRE-BID CONFERENCE

- A. A pre-bid conference for all prospective bidders will be held at 312 Allen Memorial Dr SW, Milledgeville, GA 31061 on May 6, 2016 at 10:00 a.m. local time. All prospective bidders are required to attend.

1.5 BIDDER'S QUALIFICATION DOCUMENTS

- A. Submittal shall be in the form of AIA Document A305, "Contractor's Qualification Statement," with supplemental attachments, manufacturer's letter(s), and affidavit described in the document.

1.6 QUALIFICATIONS OF PROSPECTIVE BIDDERS

- A. Bidders shall be able to obtain insurance and bonds required for the Work. A Performance Bond, separate Labor and Material Payment Bond, and Insurance in a form acceptable to Owner shall be required of the successful Bidder.

- B. The completed Prequalification Submittal for each Prospective Bidder will be evaluated by Owner according to the following criteria, described in greater detail in the document:

1. Proper license under the laws governing their respective trade(s).
2. Capacity to provide adequate Performance Bond, Labor and Material Payment Bond, and Insurance in a form acceptable to Owner.
3. Adequate financial resources, work-in-hand capacity, adequate organization, and acceptable past performance.
4. Applicable experience of firm, including experience of Project and field management staff to be assigned to the Work.
5. Written proof, in the form of a letter from the Roof Manufacturer(s), that demonstrates that the proposed Contractor is CURRENTLY certified to install that Roof Manufacturer's roof system, required by the specifications and drawings, for one or more of the approved roof manufacturers listed below.

<u>APPROVED ROOF MANUFACTURER</u>	<u>REQUIRED CONTRACTOR CURRENT CERTIFICATION</u>
MBCI	Certified Installer with photo I.D.
McElroy Metal	Qualified, Certified Installer
Fabral	Certified Installer
A.M.S.	C.I.C.P. Certified
A.I.M.	A.C.E. Certified

END OF DOCUMENT

SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

1.1.1 Project Description

The work includes the installation of a standing seam metal retrofit roof system and incidental related work.

1.1.2 Location

The work shall be located at the the Hardwick Firestation, Milledgeville, Georgia, approximately as indicated.

1.2 WORK HOURS

Normal hours for work shall be from 8:00 a.m. to 5:00 p.m., Monday through Friday. Requests for additional work shall require written approval from the Owner 7 days in advance of the proposed work period.

1.3 OCCUPANCY OF PREMISES

Building will be occupied during performance of work under this Contract.

1.4 EXISTING WORK

The Contractor shall, during the course of the work, comply with the following.

- a. Remove or alter existing work in such a manner as to prevent injury or damage to any portions of the existing work which remain.
- b. Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as approved by the Owner. At the completion of operations, existing work shall be in a condition equal to or better than that which existed before new work started.

1.5 ON-SITE PERMITS

1.5.1 Utility Outage Requests and Utility Connection Requests

Work shall be scheduled to hold outages to a minimum.

Utility outages and connections required during the prosecution of work that affect existing systems shall be arranged for at the convenience of the Owner and shall be scheduled outside the regular working hours or on weekends.

Contractor shall not be entitled to additional payment for utility outages and connections required to be performed outside the regular work hours.

Requests for utility outages and connections shall be made in writing to

the Owner at least 3 calendar days in advance of the time required. Each request shall state the system involved, area involved, approximate duration of outage, and the nature of work involved.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Progress and completion pictures; G

1.2 PROGRESS AND COMPLETION PICTURES

Photographically document conditions prior to start of construction operations. Include aerial photographs. Provide monthly, and within one month of the completion of work, digital photographs, in JPEG file format showing the sequence and progress of work. Take a minimum of 20 digital photographs each week throughout the entire project from a minimum of ten views. Submit with the monthly invoice two sets of digital photographs each set on a separate CD-R, cumulative of all photos to date. Photographs for each month shall be in a separate monthly directory. All file names shall include a date designator. Photographs shall be provided for unrestricted use by the Owner.

1.3 MINIMUM INSURANCE REQUIREMENTS

Procure and maintain during the entire period of performance under this contract the following minimum insurance coverage:

- a. Comprehensive general liability: \$500,000 per occurrence
- b. Automobile liability: \$200,000 per person, \$500,000 per occurrence for bodily injury, \$20,000 per occurrence for property damage
- c. Workmen's compensation as required by Federal and State workers' compensation and occupational disease laws.
- d. Others as required by State law.

1.4 CONTRACTOR SPECIAL REQUIREMENTS

1.4.1 Asbestos Containing Material

All contract requirements of Section 02 82 16.00 20, "Engineering Control of Asbestos Containing Materials" assigned to the Private Qualified Person (PQP) shall be accomplished directly by a first tier subcontractor.

1.5 SUPERVISION

Have at least one qualified supervisor capable of reading, writing, and conversing fluently in the English language on the job site during working hours.

1.6 PRECONSTRUCTION CONFERENCE

After award of the contract but prior to commencement of any work at the site, meet with the Owner to discuss and develop a mutual understanding relative to the administration of the safety program, preparation of the schedule of value, shop drawings, and other submittals, scheduling, and prosecution of the work. Major subcontractors who will engage in the work shall also attend.

1.7 AVAILABILITY OF CADD DRAWING FILES

After award and upon request, the electronic "Computer-Aided Drafting and Design (CADD)" drawing files will only be made available to the Contractor for use in preparation of construction data related to the referenced contract subject to the following terms and conditions.

Data contained on these electronic files shall not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse shall be at the sole risk of the Contractor and without liability or legal exposure to the Owner. The Contractor shall make no claim and waives to the fullest extent permitted by law, any claim or cause of action of any nature against the Owner, its agents or sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor shall, to the fullest extent permitted by law, indemnify and hold the Government harmless against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

These electronic CADD drawing files are not construction documents. Differences may exist between the CADD files and the corresponding construction documents. The Owner makes no representation regarding the accuracy or completeness of the electronic CADD files, nor does it make representation to the compatibility of these files with the Contractor's hardware or software. In the event that a conflict arises between the signed and sealed construction documents prepared by the Owner and the furnished CADD files, the signed and sealed construction documents shall govern. The Contractor is responsible for determining if any conflict exists. Use of these CADD files does not relieve the Contractor of duty to fully comply with the contract documents, including and without limitation, the need to check, confirm and coordinate the work of all contractors for the project.

If the Contractor uses, duplicates and/or modifies these electronic CADD files for use in producing construction data related to this contract, all previous indicia of ownership (seals, logos, signatures, initials and dates) shall be removed.

1.8 ELECTRONIC MAIL (E-MAIL) ADDRESS

The Contractor shall establish and maintain electronic mail (e-mail) capability along with the capability to open various electronic attachments in Microsoft, Adobe Acrobat, and other similar formats.

Within 10 days after contract award, the Contractor shall provide the Owner a single (only one) e-mail address for electronic communications related to this contract including, but not limited to contract documents, invoice information, request for proposals, and other correspondence. Multiple email addresses will not be allowed.

It is the Contractor's responsibility to make timely distribution of all Owner or initiated e-mail within its own organization including field office(s). The Contractor shall promptly notify the Owner, in writing, of any changes to this email address.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SECTION 01 32 16.00 20

CONSTRUCTION PROGRESS SCHEDULES

PART 1 GENERAL

1.1 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Information Only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Schedule; G, A

SD-07 Certificates

Monthly Updates

1.2 ACCEPTANCE

Prior to the start of work, prepare and submit to the Contracting Officer for acceptance a construction schedule in the form of a Bar Chart Schedule.

The acceptance of a Baseline Construction Schedule is a condition precedent to:

- a. The Contractor starting work on the demolition or construction stage(s) of the contract.
- b. Processing Contractor's invoice(s) for construction activities/items of work.
- c. Review of any schedule updates.

Submittal of the Baseline Schedule, and subsequent schedule updates, is understood to be the Contractor's certification that the submitted schedule meets all of the requirements of the Contract Documents, represents the Contractor's plan on how the work will be accomplished, and accurately reflects the work that has been accomplished and how it was sequenced (as-built logic).

1.3 SCHEDULE FORMAT

1.3.1 Bar Chart Schedule

The Bar Chart must, as a minimum, show work activities, submittals, review periods, material/equipment delivery, utility outages, on-site construction, inspection, testing, and closeout activities. The Bar Chart must be time scaled and generated using an electronic spreadsheet program.

1.3.2 Schedule Submittals and Procedures

Submit Bar Chart Schedules and updates in hard copy and on electronic media that is acceptable to the Owner.

1.4 SCHEDULE MONTHLY UPDATES

Update the Construction Schedule at monthly intervals or when the schedule has been revised. The updated schedule must be kept current, reflecting actual activity progress and plan for completing the remaining work. Submit copies of purchase orders and confirmation of delivery dates as directed by the Owner.

a. Narrative Report: Provide with schedule updates. Identify and justify;

- (1) Progress made in each area of the project
- (2) Critical Path
- (3) Date/time constraint(s), other than those required by the contract
- (4) Changes in the following; added or deleted activities, original and remaining durations for activities that have not started, logic, milestones, planned sequence of operations, and critical path
- (5) Status of Contract Completion Date and interim milestones;
- (6) Current and anticipated delays (describe cause of delay and corrective actions(s) and mitigation measures to minimize);
- (7) Description of current and future schedule problem areas.

Each entry in the narrative report must cite the respective Activity ID and Activity Description, the date and reason for the change, and description of the change.

1.5 CORRESPONDENCE AND TEST REPORTS:

All correspondence (e.g., letters, Requests for Information (RFIs), e-mails, meeting minute items, Production and QC Daily Reports, material delivery tickets, photographs) must reference Schedule Activities that are being addressed. All test reports must reference Schedule Activities that are being addressed.

1.6 ADDITIONAL SCHEDULING REQUIREMENTS

Any references to additional scheduling requirements, including systems to be inspected, tested and commissioned, that are located throughout the remainder of the Contract Documents, are subject to all requirements of this section.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

The Architect/Engineer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections.

Units of weights and measures used on all submittals are to be the same as those used in the contract drawings.

Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.

The Contractor's Quality Control (CQC) System Manager shall check and approve all items prior to submittal and stamp, sign, and date indicating action taken. Proposed deviations from the contract requirements are to be clearly identified. Include within submittals items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals.

Submittals requiring Owner approval are to be scheduled and made prior to the acquisition of the material or equipment covered thereby. Pick up and dispose of samples not incorporated into the work in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

A submittal register showing items of equipment and materials for when submittals are required by the specifications is provided as "Appendix A - Submittal Register".

1.2 DEFINITIONS

1.2.1 Submittal Descriptions (SD)

Submittals requirements are specified in the technical sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals

Submittals which are required prior to start of construction (work). Includes schedules, tabular list of data, or tabular list including location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.

Certificates of insurance

Surety bonds

List of proposed Subcontractors

Construction progress schedule

Submittal register

Schedule of Values

SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project.

Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials, systems or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

SD-04 Samples

Fabricated or unfabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

SD-05 Design Data

Design calculations, mix designs, analyses or other data pertaining to a part of work.

Design submittals, design substantiation submittals and extensions of design submittals.

SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified

requirements. Unless specified in another section, testing must have been within three years of date of contract award for the project.

Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports.

Daily logs and checklists.

Final acceptance test and operational test procedure.

SD-07 Certificates

Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a manufacturer, supplier, installer or Subcontractor through Contractor. The document purpose is to further promote the orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

Text of posted operating instructions.

SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or material, including special notices and (MSDS) concerning impedances, hazards and safety precautions.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

Special requirements necessary to properly close out a construction contract. For example, as-built drawings. Also, submittal requirements necessary to properly close out a major phase of construction on a multi-phase contract.

1.2.2 Approving Authority

Office or designated person authorized to approve submittal.

1.2.3 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce submittals,

except those SD-01 Pre-Construction Submittals noted above, construction, materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.3 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with this section.

SD-01 Preconstruction Submittals

Submittal Register; G, A

1.4 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.4.1 Designer of Record Approved (A)

1.4.1.1 Deviations to the Accepted Design

Designer of Record approval is required for any proposed deviation from the accepted design which still complies with the contract before the Contractor is authorized to proceed with material acquisition or installation. If necessary to facilitate the project schedule, the Contractor and the DOR may discuss a submittal proposing a deviation with the Owner's Representative prior to officially submitting it for approval.

1.4.1.2 Substitutions

Unless prohibited or provided for otherwise elsewhere in the Contract, where the accepted contract proposal named products, systems, materials or equipment by manufacturer, brand name and/or by model number or other specific identification, and the Contractor desires to substitute manufacturer or model after award, submit a requested substitution for Owner concurrence. Include substantiation, identifying information and the DOR's approval, as meeting the contract requirements and that it is equal in function, performance, quality and salient features to that in the accepted contract proposal. If the Contract otherwise prohibits substitutions of equal named products, systems, materials or equipment by manufacturer, brand name and/or by model number or other specific identification, the request is considered a "variation" to the contract. Variations are discussed below in paragraphs: "VARIATIONS."

1.4.2 For Information Only

Submittals not requiring Owner approval will be for information only.

1.5 FORWARDING SUBMITTALS REQUIRING OWNER APPROVAL

1.5.1 Submittals Required from the Contractor

As soon as practicable after award of contract, and before procurement of fabrication, forward to the Architect-Engineer: Michael E. Clark and Associates, Inc., submittals required in the technical sections of this specification, including shop drawings, product data and samples.

The Architect-Engineer for this project will review and approve for the Owner those submittals reserved for Owner approval to verify submittals comply with the contract requirements.

1.6 PREPARATION

1.6.1 Transmittal Form

Transmit each submittal, except sample installations and sample panels to office of approving authority. On the transmittal form identify Contractor, indicate date of submittal, and include information prescribed by transmittal form and required in paragraph IDENTIFYING SUBMITTALS of this section.

1.6.2 Identifying Submittals

When submittals are provided by a Subcontractor, the Prime Contractor is to prepare, review and stamp with Contractor's approval all specified submittals prior to submitting for Owner approval.

Identify submittals, except sample installations and sample panels, with the following information permanently adhered to or noted on each separate component of each submittal and noted on transmittal form. Mark each copy of each submittal identically, with the following:

- a. Project title and location.
- b. Date of the drawings and revisions.
- c. Name, address, and telephone number of subcontractor, supplier, manufacturer and any other subcontractor associated with the submittal.
- d. Section number of the specification section by which submittal is required.
- e. Submittal description (SD) number of each component of submittal.
- f. When a resubmission, add alphabetic suffix on submittal description, for example, submittal 18 would become 18A, to indicate resubmission.
- g. Product identification and location in project.

1.6.3 Format for SD-02 Shop Drawings

Shop drawings are not to be less than 8 1/2 by 11 inches nor more than 30 by 42 inches. Prepare drawings to accurate size, with scale indicated, unless other form is required. Drawings are to be suitable for reproduction and be of a quality to produce clear, distinct lines and letters with dark lines on a white background.

Present 8 1/2 by 11 inches sized shop drawings as part of the bound volume for submittals required by section. Present larger drawings in sets.

Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph IDENTIFYING SUBMITTALS.

Number drawings in a logical sequence. Contractors may use their own number system. Each drawing is to bear the number of the submittal in a uniform location adjacent to the title block.

Dimension drawings, except diagrams and schematic drawings; prepare drawings demonstrating interface with other trades to scale. Use the same unit of measure for shop drawings as indicated on the contract drawings. Identify materials and products for work shown.

Include the nameplate data, size and capacity on drawings. Also include applicable federal, military, industry and technical society publication references.

1.6.4 Format of SD-03 Product Data and SD-08 Manufacturer's Instructions

Present product data submittals for each section as a complete, bound volume. Include table of contents, listing page and catalog item numbers for product data.

Indicate, by prominent notation, each product which is being submitted; indicate specification section number and paragraph number to which it pertains.

Supplement product data with material prepared for project to satisfy submittal requirements for which product data does not exist. Identify this material as developed specifically for project, with information and format as required for submission of SD-07 Certificates.

Include the manufacturer's name, trade name, place of manufacture, and catalog model or number on product data. Also include applicable federal, military, industry and technical society publication references. Should manufacturer's data require supplemental information for clarification, submit as specified for SD-07 Certificates.

Collect required data submittals for each specific material, product, unit of work, or system into a single submittal and marked for choices, options, and portions applicable to the submittal. Mark each copy of the product data identically. Partial submittals will not be accepted for expedition of construction effort.

Submit manufacturer's instructions prior to installation.

1.6.5 Format of SD-04 Samples

Furnish samples in sizes below, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately same size as specified:

- a. Sample of Equipment or Device: Full size.
- b. Sample of Materials Less Than 2 by 3 inches: Built up to 8 1/2 by 11 inches.
- c. Sample of Materials Exceeding 8 1/2 by 11 inches: Cut down to 8 1/2 by 11 inches and adequate to indicate color, texture, and material variations.
- d. Sample of Linear Devices or Materials: 10 inch length or length to be supplied, if less than 10 inches. Examples of linear devices or

materials are conduit and handrails.

- e. Sample of Non-Solid Materials: Pint. Examples of non-solid materials are sand and paint.
- f. Color Selection Samples: 2 by 4 inches. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified. Sizes and quantities of samples are to represent their respective standard unit.
- g. Sample Panel: 4 by 4 feet.
- h. Sample Installation: 100 square feet.

Samples Showing Range of Variation: Where variations in color, finish, pattern, or texture are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range. Mark each unit to describe its relation to the range of the variation.

Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples are to be in undamaged condition at time of use.

Recording of Sample Installation: Note and preserve the notation of area constituting sample installation but remove notation at final clean up of project.

When color, texture or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

1.6.6 Format of SD-05 Design Data and SD-07 Certificates

Provide design data and certificates on 8 1/2 by 11 inches paper. Provide a bound volume for submittals containing numerous pages.

1.6.7 Format of SD-06 Test Reports and SD-09 Manufacturer's Field Reports

Provide reports on 8 1/2 by 11 inches paper in a complete bound volume.

Indicate by prominent notation, each report in the submittal. Indicate specification number and paragraph number to which it pertains.

1.6.8 Format of SD-01 Preconstruction Submittals and SD-11 Closeout Submittals

When submittal includes a document which is to be used in project or become part of project record, other than as a submittal, do not apply Contractor's approval stamp to document, but to a separate sheet accompanying document.

1.6.9 Source Drawings for Shop Drawings

The entire set of Source Drawing files (DWG) will not be provided to the Contractor. Only those requested by the Contractor to prepare shop drawings may be provided. Request the specific Drawing Number only for the preparation of Shop Drawings. These drawings may only be provided

after award.

1.6.9.1 Terms and Conditions

Data contained on these electronic files must not be used for any purpose other than as a convenience in the preparation of construction data for the referenced project. Any other use or reuse shall be at the sole risk of the Contractor and without liability or legal exposure to the Owner. The Contractor must make no claim and waives to the fullest extent permitted by law, any claim or cause of action of any nature against the Owner, its agents or sub consultants that may arise out of or in connection with the use of these electronic files. The Contractor must, to the fullest extent permitted by law, indemnify and hold the Owner harmless against all damages, liabilities or costs, including reasonable attorney's fees and defense costs, arising out of or resulting from the use of these electronic files.

1.7 QUANTITY OF SUBMITTALS

1.7.1 Number of Copies of SD-02 Shop Drawings

Submit four copies of submittals of shop drawings requiring review and approval.

1.7.2 Number of Copies of SD-03 Product Data and SD-08 Manufacturer's Instructions

Submit in compliance with quantity requirements specified for shop drawings.

1.7.3 Number of Samples SD-04 Samples

- a. Submit two samples, or two sets of samples showing range of variation, of each required item. One approved sample or set of samples will be retained by approving authority and one will be returned to Contractor.
- b. Submit one sample panel or provide one sample installation where directed. Include components listed in technical section or as directed.
- c. Submit one sample installation, where directed.
- d. Submit one sample of non-solid materials.

1.7.4 Number of Copies SD-05 Design Data and SD-07 Certificates

Submit in compliance with quantity requirements specified for shop drawings.

1.7.5 Number of Copies SD-06 Test Reports and SD-09 Manufacturer's Field Reports

Submit in compliance with quantity and quality requirements specified for shop drawings other than field test results that will be submitted with QC reports.

1.7.6 Number of Copies of SD-01 Preconstruction Submittals and SD-11 Closeout Submittals

Unless otherwise specified, submit four sets of administrative submittals.

1.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Owner is not required on information only submittals. The Owner reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Owner from requiring removal and replacement of nonconforming material incorporated in the work.

1.9 VARIATIONS

Variations from contract requirements require both Designer of Record (DOR) and Owner approval.

1.9.1 Considering Variations

Discussion with Owner prior to submission, after consulting with the DOR, will help ensure functional and quality requirements are met and minimize rejections and re-submittals.

Specifically point out variations from contract requirements in transmittal letters. Failure to point out deviations may result in the Owner requiring rejection and removal of such work at no additional cost to the Owner.

1.9.2 Proposing Variations

When proposing variation, deliver written request to the Owner, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to Owner, including the DOR's written analysis and approval. If lower cost is a benefit, also include an estimate of the cost savings. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

1.9.3 Warranting that Variations are Compatible

When delivering a variation for approval, Contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

1.9.4 Review Schedule is Modified

In addition to normal submittal review period, a period of 10 working days will be allowed for consideration by the Owner of submittals with variations.

1.10 SUBMITTAL REGISTER AND DATABASE

Prepare and maintain submittal register, as the work progresses. Do not change data which is output in columns (c), (d), (e), and (f) as delivered by Owner retain data which is output in columns (a), (g), (h), and (i) as approved. A submittal register showing items of equipment and materials

for which submittals are required by the specifications is provided as an attachment. This list may not be all inclusive and additional submittals may be required. The Owner will provide the initial submittal register with the following fields completed, to the extent that will be required by the Owner during subsequent usage.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD No. and type, e.g. SD-02 Shop Drawings) required in each specification section.

Column (e): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting project requirements.

Column (f): Indicate approving authority for each submittal.

Thereafter, the Contractor is to track all submittals by maintaining a complete list, including completion of all data columns, including dates on which submittals are received and returned by the Owner.

1.10.1 Use of Submittal Register

Verify that all submittals required for project are listed and add missing submittals. Coordinate and complete the following fields:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for approving authority to receive submittals.

Column (h) Contractor Approval Date: Date Contractor needs approval of submittal.

Column (i) Contractor Material: Date that Contractor needs material delivered to Contractor control.

1.10.2 Contractor Use of Submittal Register

Update the following fields with each submittal throughout contract.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (j) Action Code (k): Date of action used to record Contractor's review when forwarding submittals to QC.

Column (l) List date of submittal transmission.

Column (q) List date approval received.

1.10.3 Approving Authority Use of Submittal Register

Update the following fields.

Column (b) Transmittal Number: Contractor assigned list of

consecutive numbers.

Column (l) List date of submittal receipt.

Column (m) through (p) List Date related to review actions.

Column (q) List date returned to Contractor.

1.10.4 Action Codes

Entries for columns (j) and (o), are to be used as follows (others may be prescribed by Transmittal Form):

1.10.4.1 Owner Review Action Codes

"A" - "Approved as submitted"; "Completed"

"B" - "Approved, except as noted on drawings"; "Completed"

"C" - "Approved, except as noted on drawings; resubmission required"; "Resubmit"

"D" - "Returned by separate correspondence"; "Completed"

"E" - "Disapproved (See attached)"; "Resubmit"

"F" - "Receipt acknowledged"; "Completed"

"G" - "Other (Specify)"; "Resubmit"

"X" - "Receipt acknowledged, does not comply with contract requirements"; "Resubmit"

1.11 SCHEDULING

Schedule and submit concurrently submittals covering component items forming a system or items that are interrelated. Include certifications to be submitted with the pertinent drawings at the same time. No delay damages or time extensions will be allowed for time lost in late submittals.

- a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential resubmittal of requirements.
- b. Submittals called for by the contract documents will be listed on the register. If a submittal is called for but does not pertain to the contract work, the Contractor is to include the submittal in the register and annotate it "N/A" with a brief explanation. Approval by the Owner does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the register or marked "N/A."
- c. Re-submit register and annotate monthly by the Contractor with actual submission and approval dates. When all items on the register have been fully approved, no further re-submittal is required.
- d. Carefully control procurement operations to ensure that each

individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

- e. Except as specified otherwise, allow review period, beginning with receipt by approving authority, that includes at least 15 working days.
- f. Period of review for each resubmittal is the same as for initial submittal.

1.12 OWNER APPROVING AUTHORITY

When approving authority is the Owner, the Owner will:

- a. Note date on which submittal was received from the Contractor.
- b. Review submittals for approval within scheduling period specified and only for conformance with project design concepts and compliance with contract documents.
- c. Identify returned submittals with one of the actions defined in paragraph REVIEW NOTATIONS and with markings appropriate for action indicated.

Upon completion of review of submittals requiring Owner approval, stamp and date submittals. Two copies of the submittal will be retained by the Owner and two copies of the submittal will be returned to the Contractor.

1.12.1 Review Notations

Owner review will be completed within 15 calendar days after date of submission. Submittals will be returned to the Contractor with the following notations:

- a. Submittals marked "approved" or "accepted" authorize the Contractor to proceed with the work covered.
- b. Submittals marked "approved as noted" "or approved, except as noted, resubmittal not required," authorize the Contractor to proceed with the work covered provided he takes no exception to the corrections.
- c. Submittals marked "not approved" or "disapproved," or "revise and resubmit," indicate noncompliance with the contract requirements or design concept, or that submittal is incomplete. Resubmit with appropriate changes. No work shall proceed for this item until resubmittal is approved.
- d. Submittals marked "not reviewed" will indicate submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by Contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by Contractor or for being incomplete, with appropriate action, coordination, or change.

1.13 DISAPPROVED SUBMITTALS

Contractor shall make corrections required by the Owner. If the Contractor considers any correction or notation on the returned submittals to constitute a change to the contract drawings or specifications; notice

is to be given to the Owner. Contractor is responsible for the dimensions and design of connection details and construction of work. Failure to point out deviations may result in the Owner requiring rejection and removal of such work at the Contractor's expense.

If changes are necessary to submittals, make such revisions and submission of the submittals in accordance with the procedures above. No item of work requiring a submittal change is to be accomplished until the changed submittals are approved.

1.14 APPROVED SUBMITTALS

The Owner's approval or acceptance of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing and other information are satisfactory.

Approval or acceptance will also not relieve the Contractor of the responsibility for any error which may exist, as the Contractor is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work dimensions, all design extensions, such as the design of adequate connections and details, etc., and the satisfactory construction of all work.

After submittals have been approved or accepted by the Owner, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.15 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained. No payment for materials incorporated in the work will be made if all required Designer of Record approvals have not been obtained.

1.16 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements is to be similar to the following:

CONTRACTOR (Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s)
SIGNATURE: _____
TITLE: _____
DATE: _____

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

-- End of Section --

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

Replace Roof Hardwick Firestation, Milledgeville, Georgia

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY					REMARKS		
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE	DATE OF ACTION		MAILED TO CONTR/ DATE RCD FRM APPR AUTH	
																		(g)
		01 30 00	SD-01 Preconstruction Submittals Progress and completion pictures	1.2	G													
		01 32 16.00 20	SD-01 Preconstruction Submittals Construction Schedule	1.2	G A													
			SD-07 Certificates Monthly Updates	1.4														
		01 33 00	SD-01 Preconstruction Submittals Submittal Register	1.10	G A													
		01 45 00.00 20	SD-01 Preconstruction Submittals Construction Quality Control (QC) Plan	1.4.1	G A													
		01 50 00	SD-01 Preconstruction Submittals Construction Site Plan	1.2	G A													
		01 57 19.00 20	SD-01 Preconstruction Submittals Preconstruction Survey	1.5.1	G A													
			SD-11 Closeout Submittals Disposal Documentation for Hazardous and Regulated Waste Solid Waste Management Report	3.3.1														
		01 74 19	SD-01 Preconstruction Submittals Waste Management Plan	1.5	G A													
			SD-11 Closeout Submittals Records	1.6														
		01 78 00	SD-08 Manufacturer's Instructions Preventative Maintenance															
			SD-11 Closeout Submittals															

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Replace Roof Hardwick Firestation, Milledgeville, Georgia

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						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE			DATE OF ACTION
		01 78 00	As-Built Drawings	3.1	G A												
		02 41 00	SD-01 Preconstruction Submittals														
			Existing Conditions	1.10													
			SD-11 Closeout Submittals														
			Receipts														
		07 41 63	SD-01 Preconstruction Submittals														
			Qualification of Manufacturer	1.5.1	G A												
			Qualification of Manufacturer	1.5.3	G A												
			Qualification of Installer	1.5.1	G A												
			SD-02 Shop Drawings														
			Roofing Panels	1.5.1	G A												
			Flashing and Accessories	1.5.1	G A												
			Gutter/Downspout Assembly	1.5.1	G A												
			SD-03 Product Data														
			Factory Color Finish	1.5.1	G A												
			Sub-girts and Formed Shapes	1.5.1	G A												
			Closure Materials	1.5.1	G A												
			Insulation	1.5.1	G A												
			Pressure Sensitive Tape	1.5.1	G A												
			Sealants and Caulking	1.5.1	G A												
			Accessories	1.5.1	G A												
			SD-04 Samples														
			Manufacturer's Color Charts and Chips	1.5.1	G A												
			SD-05 Design Data														
			Wind Design Analysis	1.5.1	G A												

SUBMITTAL REGISTER

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TITLE AND LOCATION
 Replace Roof Hardwick Firestation, Milledgeville, Georgia

CONTRACTOR _____

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS		
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER			ACTION CODE	DATE OF ACTION
		07 41 63	SD-06 Test Reports															
			Test Reports	2.1.2	G A													
			Leakage Tests	3.7.2	G A													
			Fire Rating Test Report	1.5.1	G A													
			Coatings and Base Metals of Metal Roofing	3.1	G A													
			Factory Finish and Color Performance Requirements	1.5.1	G A													
			Wind Uplift Test Report	1.5.1	G A													
			SD-07 Certificates															
			Coil Stock	1.5.1	G A													
			Fasteners	2.2.2	G A													
			SD-08 Manufacturer's Instructions															
			Installation of Roof Panel Assemblies	1.5.1	G A													
			SD-11 Closeout Submittals															
			Warranty	1.8	G A													
			Manufacturer's Field Inspection Reports		G A													
			Instructions	1.5.1	G A													
			Date Of Installation Wall-Mounted Placard	3.12	G A													
			20 year 'No-Dollar-Limit' Warranty for Labor and Materials	1.8.1	G A													
		07 42 63	SD-01 Preconstruction Submittals															
			Qualification of Manufacturer	1.5.3														

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						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/	DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER			ACTION CODE	DATE OF ACTION
		07 42 63	Qualification of Installer	1.5.4														
			SD-02 Shop Drawings															
			Fabrication and Installation drawings	1.5.1														
			Wall Panel Assemblies	1.5.1														
			Flashing and Accessories	1.5.1														
			Anchorage Systems	1.5.1														
			SD-03 Product Data															
			Certification															
			sustainable acquisition	1.5.1														
			Manufacturer's catalog data	1.5.1														
			Factory Color Finish	1.5.1														
			Sub-girts and Formed Shapes	1.5.1														
			Closure Materials	1.5.1														
			Insulation	1.5.1														
			Pressure Sensitive Tape	1.5.1														
			Sealants and Caulking	2.4.3.1														
			Accessories	1.5.1														
			SD-04 Samples															
			manufacturer's color charts and chips	1.5.1														
			SD-05 Design Data															
			wind design analysis	1.5.1														
			SD-06 Test Reports															
			Leakage Tests	3.7.2														
			wind load tests															

SUBMITTAL REGISTER

CONTRACT NO.

TITLE AND LOCATION

Replace Roof Hardwick Firestation, Milledgeville, Georgia

CONTRACTOR

ACTIVITY NO	TRANSMITTAL NO	SPEC SECT	DESCRIPTION ITEM SUBMITTED	PARAGRAPH	GOVT CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS	
						SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACTION CODE	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTH REVIEWER	ACTION CODE			DATE OF ACTION
		07 42 63	Factory Color Finish	1.5.1													
			SD-07 Certificates														
			Fasteners	1.5.1													
			Qualification of Manufacturer	1.5.3													
			Qualification of Installer	1.5.4													
			wall system assembly wind load and fire rating classification listings	1.5.1													
			SD-08 Manufacturer's Instructions														
			Installation of Wall panels	1.5.1													
			SD-11 Closeout Submittals														
			Warranty														
			Instructions	1.5.1													
			20 year 'No-Dollar-Limit' warranty	1.5.1													

SECTION 01 42 00

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the standards producing organization (e.g. ASTM B564 Standard Specification for Nickel Alloy Forgings). However, when the standards producing organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the standards publishing organizations whose documents are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the standards producing organization should be ordered from the source by title rather than by number.

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)
1827 Walden Office Square, Suite 550
Schaumburg, IL 60173-4268
Ph: 847-303-5664
Fax: 847-303-5774
E-mail: customerservice@aamanet.org
Internet: <http://www.aamanet.org>

AMERICAN IRON AND STEEL INSTITUTE (AISI)
25 Massachusetts Avenue, NW Suite 800
Washington, DC 20001
Ph: 202-452-7100
Internet: <http://www.steel.org>

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)
1801 Alexander Bell Drive
Reston, VA 20191
Ph: 703-295-6300; 800-548-2723
E-mail: member@asce.org
Internet: <http://www.asce.org>

ASTM INTERNATIONAL (ASTM)
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959
Ph: 877-909-2786
Internet: <http://www.astm.org>

METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA)
1300 Sumner Avenue

Cleveland, OH 44115-2851
Ph: 216-241-7333
Fax: 216-241-0105
E-mail: mbma@mbma.com
Internet: <http://www.mbma.com>

NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM)
800 Roosevelt Road, Bldg C, Suite 312
Glen Ellyn, IL 60137
Ph: 630-942-6591
Fax: 630-790-3095
E-mail: wlewis7@cox.net (Wes Lewis, technical consultant)
Internet: <http://www.naamm.org>

NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
10255 West Higgins Road, Suite 600
Rosemont, IL 60018-5607
Ph: 866-275-6722 (866-ASK-NRCA)
Fax: 847-299-1183
E-mail: info@nrca.net
Internet: <http://www.nrca.net>

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION
(SMACNA)
4201 Lafayette Center Drive
Chantilly, VA 20151-1219
Ph: 703-803-2980
Fax: 703-803-3732
Internet: <http://www.smacna.org>

SOCIETY FOR PROTECTIVE COATINGS (SSPC)
40 24th Street, 6th Floor
Pittsburgh, PA 15222
Ph: 412-281-2331
Fax: 412-281-9992
E-mail: info@sspc.org
Internet: <http://www.sspc.org>

U.S. ARMY CORPS OF ENGINEERS (USACE)
CRD-C DOCUMENTS available on Internet:
http://www.wbdg.org/ccb/browse_cat.php?c=68
Order Other Documents from:
USACE Publications Depot
Attn: CEHEC-IM-PD
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081
Fax: 301-394-0084
E-mail: pubs-army@usace.army.mil
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or
<http://www.hnc.usace.army.mil/Missions/Engineering/TECHINFO.aspx>

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E-mail: CEC.us@us.ul.com
Internet: <http://www.ul.com/>
UL Directories available through IHS at <http://www.ihs.com>

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

-- End of Section --

SECTION 01 45 00.00 20

QUALITY CONTROL

PART 1 GENERAL

1.1 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES

SD-01 Preconstruction Submittals

Construction Quality Control (QC) Plan; G, A

Submit a Construction QC Plan prior to start of construction.

1.2 QC PROGRAM REQUIREMENTS

Establish and maintain a QC program as described in this section. The QC program consists of a QC Organization, QC Plan, QC meetings, three phases of control, submittal review and approval, testing, completion inspections, QC certifications, and documentation necessary to provide materials, equipment, workmanship, fabrication, construction and operations which comply with the requirements of this Contract. The QC program must cover on-site and off-site work and be keyed to the work sequence. No construction work or testing may be performed unless the QC Manager is on the work site. The QC Manager, Project Superintendent and Project Manager must work together effectively. Although the QC Manager is the primary individual responsible for quality control, all individuals will be held responsible for the quality of work on the job.

1.2.1 Acceptance of the Construction Quality Control (QC) Plan

Acceptance of the QC Plan is required prior to the start of construction. The Owner reserves the right to require changes in the QC Plan and operations as necessary, including removal of personnel, to ensure the specified quality of work.

1.2.2 Preliminary Construction Work Authorized Prior to Acceptance

The only construction work that is authorized to proceed prior to the acceptance of the QC Plan is mobilization of storage and office trailers.

1.2.3 Notification of Changes

Notify the Owner, in writing, of any proposed changes in the QC Plan or changes to the QC organization personnel, a minimum of 10 work days prior to a proposed change. Proposed changes are subject to acceptance by the Owner.

1.3 QC ORGANIZATION

1.3.1 QC Manager

1.3.1.1 Duties

Provide a QC Manager at the work site to implement and manage the QC program, and to serve as the Site Safety and Health Officer (SSHO) as detailed in Section 01 35 26 SAFETY REQUIREMENTS. In addition to implementing and managing the QC program, the QC Manager may perform the duties of Project Superintendent. The QC Manager is required to attend the partnering meetings, QC Plan Meetings, conduct the QC meetings, perform the three phases of control perform submittal review and approval, ensure testing is performed and provide QC certifications and documentation required in this Contract. The QC Manager is responsible for managing and coordinating the three phases of control and any other inspection and testing personnel required by this Contract. The QC Manager is the manager of all QC activities.

1.3.1.2 Qualifications

An individual with a minimum of 5 years combined experience in the following positions: Project Superintendent, QC Manager, Project Manager, or Construction Manager on similar size and type construction contracts which included the major trades that are part of this Contract. The individual must have at least two years experience as a QC Manager. The individual must have experience in the areas of hazard identification, safety compliance, and sustainability.

1.4 QUALITY CONTROL (QC) PLAN

1.4.1 Construction Quality Control (QC) Plan

1.4.1.1 Requirements

Provide, for acceptance by the Owner, a Construction QC Plan submitted that includes a table of contents, with major sections identified with tabs, with pages numbered sequentially, and that documents the proposed methods and responsibilities for accomplishing quality control commissioning activities during the construction of the project:

- a. QC ORGANIZATION: A chart showing the QC organizational structure.
- b. NAMES AND QUALIFICATIONS: Names and qualifications, in resume format, for each person in the QC organization.
- c. DUTIES, RESPONSIBILITY AND AUTHORITY OF QC PERSONNEL: Duties, responsibilities, and authorities of each person in the QC organization.
- d. OUTSIDE ORGANIZATIONS: A listing of outside organizations that will be employed by the Contractor and a description of the services these firms will provide.
- e. APPOINTMENT LETTERS: Letters signed by an officer of the firm appointing the QC Manager stating that they are responsible for implementing and managing the QC program as described in this Contract. Include in this letter the responsibility of the QC Manager to implement and manage the three phases of control, and their

authority to stop work which is not in compliance with the Contract. Include copies of the letters in the QC Plan.

- f. SUBMITTAL PROCEDURES AND INITIAL SUBMITTAL REGISTER: Procedures for reviewing, approving, and managing submittals. Provide the name(s) of the person(s) in the QC organization authorized to review and certify submittals prior to approval. Provide the initial submittal of the Submittal Register as specified in Section 01 33 00 SUBMITTAL PROCEDURES.
- g. PROCEDURES TO COMPLETE REWORK ITEMS: Procedures to identify, record, track, and complete rework items.
- h. LIST OF DEFINABLE FEATURES: A Definable Feature of Work (DFOW) is a task that is separate and distinct from other tasks and has control requirements and work crews unique to that task. A DFOW is identified by different trades or disciplines and is an item or activity on the construction schedule.
- i. PROCEDURES FOR PERFORMING THE THREE PHASES OF CONTROL: Identify procedures used to ensure the three phases of control to manage the quality on this project.

1.5 QC MEETINGS

After the start of construction, conduct weekly QC meetings by the QC Manager at the work site with the Project Superintendent and the foremen who are performing the work of the DFOWs. The QC Manager is to prepare the minutes of the meeting and provide a copy to the Owner within two working days after the meeting. The Owner may attend these meetings. As a minimum, accomplish the following at each meeting:

- a. Review the minutes of the previous meeting.
- b. Review the schedule and the status of work and rework.
- c. Review the status of submittals.
- d. Review the work to be accomplished in the next two weeks and documentation required.
- e. Resolve QC and production problems (RFI, etc.).
- f. Address items that may require revising the QC Plan.
- g. Review environmental requirements and procedures.

1.6 THREE PHASES OF CONTROL

Adequately cover both on-site and off-site work with the Three Phases of Control and include the following for each DFOW.

1.6.1 Preparatory Phase

Perform the following prior to beginning work on each DFOW:

- a. Review each paragraph of the applicable specification sections.
- b. Review the Contract drawings.

- c. Verify that field measurements are as indicated on construction and/or shop drawings before confirming product orders, in order to minimize waste due to excessive materials.
- d. Verify that appropriate shop drawings and submittals for materials and equipment have been submitted and approved.
- e. Ensure that provisions have been made to provide the required QC testing.
- f. Examine the work area to ensure that the required preliminary work has been completed.
- g. Coordinate the schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- h. Arrange for the return of shipping/packaging materials, such as wood pallets, where economically feasible.
- i. Examine the required materials, equipment and sample work to ensure that they are on hand and conform to the approved shop drawings and submitted data and are properly stored.
- j. Discuss specific controls used and construction methods, construction tolerances, workmanship standards, and the approach that will be used to provide quality construction by planning ahead and identifying potential problems for each DFW.

1.6.2 Initial Phase

When construction crews are ready to start work on a DFW, conduct the initial phase with the Project Superintendent and the foreman responsible for that DFW. Observe the initial segment of the DFW to ensure that the work complies with Contract requirements. Repeat the initial phase for each new crew to work on-site, or when acceptable levels of specified quality are not being met. Perform the following for each DFW:

- a. Establish level of workmanship and verify that it meets the minimum acceptable workmanship standards.
- b. Resolve any workmanship issues.

1.6.3 Follow-Up Phase

Perform the following for on-going work daily, or more frequently as necessary, until the completion of each DFW:

- a. Ensure the work is in compliance with Contract requirements.
- b. Maintain the quality of workmanship required.
- c. Ensure that rework items are being corrected.
- d. Assure manufacturers representatives have performed necessary inspections.

1.6.4 Additional Preparatory and Initial Phases

Conduct additional preparatory and initial phases on the same DFOW if the quality of on-going work is unacceptable, if there are changes in the applicable QC organization, if there are changes in the on-site production supervision or work crew, if work on a DFOW is resumed after substantial period of inactivity, or if other problems develop.

1.7 SUBMITTAL REVIEW AND APPROVAL

Procedures for submission, review and approval of submittals are described in Section 01 33 00 SUBMITTAL PROCEDURES.

1.7.1 Test Reports and Monthly Summary Report of Tests

Furnish the signed reports, certifications, and a summary report of field tests at the end of each month to the Contracting Officer. Attach a copy of the summary report to the last daily Contractor Quality Control Report of each month. Provide a copy of the signed test reports and certifications to the OMSI preparer for inclusion into the OMSI documentation.

1.8 QC CERTIFICATIONS

1.8.1 Completion Certification

Upon completion of work under this Contract, the QC Manager must furnish a certificate to the Owner attesting that "the work has been completed, inspected, tested and is in compliance with the Contract."

1.9 COMPLETION INSPECTIONS

1.9.1 Punch-Out Inspection

Near the completion of all work or any increment thereof, the QC Manager must conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings, specifications and Contract. Include in the punch list any remaining items on the "Rework Items List", which were not corrected prior to the Punch-Out Inspection. Include within the punch list the estimated date by which the deficiencies will be corrected. Provide a copy of the punch list to the Owner. The QC Manager must make follow-on inspections to ascertain that all deficiencies have been corrected. Once this is accomplished, notify the Owner that the facility is ready for the Owner "Pre-Final Inspection".

1.9.2 Pre-Final Inspection

The Owner and QCM will perform this inspection to verify that the facility is complete and ready to be occupied. A Owner "Pre-Final Punch List" will be documented by the QCM as a result of this inspection. The QC Manager will ensure that all items on this list are corrected prior to notifying the Owner that a "Final" inspection with the Client can be scheduled. Any items noted on the "Pre-Final" inspection must be corrected in a timely manner and be accomplished before the contract completion date for the work.

1.9.3 Final Acceptance Inspection

Notify the Owner at least 14 calendar days prior to the date a final

acceptance inspection can be held. State within the notice that all items previously identified on the pre-final punch list will be corrected and acceptable, along with any other unfinished Contract work, by the date of the final acceptance inspection. The Contractor must be represented by the QC Manager, the Project Superintendent, and others deemed necessary. Attendees for the Owner will include the Architect/Engineer and personnel representing the Client. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Owner to bill the Contractor for the Owner's additional inspection cost.

1.10 DOCUMENTATION

Maintain current and complete records of on-site and off-site QC program operations and activities.

1.10.1 Rework Items List

The QC Manager must maintain a list of work that does not comply with the Contract, identifying what items need to be reworked, the date the item was originally discovered, the date the item will be corrected by, and the date the item was corrected. There is no requirement to report a rework item that is corrected the same day it is discovered.

1.10.2 As-Built Drawings

The QC Manager is required to ensure the as-built drawings, required by Section 01 78 00 CLOSEOUT SUBMITTALS are kept current on a daily basis and marked to show deviations which have been made from the Contract drawings. Ensure each deviation has been identified with the appropriate modifying documentation (e.g. Request for Information No., etc.). The QC Manager must initial each revision.

1.11 NOTIFICATION ON NON-COMPLIANCE

The Architect/Engineer will notify the Contractor of any detected non-compliance with the Contract. Take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the work site, is deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders will be made the subject of claim for extension of time for excess costs or damages by the Contractor.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PREPARATION

Designate receiving/storage areas for incoming material to be delivered according to installation schedule and to be placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. Store and handle materials in a manner as to prevent loss

from weather and other damage. Keep materials, products, and accessories covered and off the ground, and store in a dry, secure area. Prevent contact with material that may cause corrosion, discoloration, or staining. Protect all materials and installations from damage by the activities of other trades.

-- End of Section --

SECTION 01 50 00

TEMPORARY CONSTRUCTION FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Construction Site Plan; G, A

1.2 CONSTRUCTION SITE PLAN

Prior to the start of work, submit a site plan showing the locations and dimensions of temporary facilities (including layouts and details, equipment and material storage area (onsite and offsite), and access and haul routes. Show locations of safety and construction fences, site trailers, construction entrances, trash dumpsters, temporary sanitary facilities, and worker parking areas.

PART 2 PRODUCTS

2.1 TEMPORARY TRAFFIC CONTROL

2.1.1 Barricades

Erect and maintain temporary barricades to limit public access to hazardous areas. Whenever safe public access to paved areas such as roads, parking areas or sidewalks is prevented by construction activities or as otherwise necessary to ensure the safety of both pedestrian and vehicular traffic barricades will be required. Securely place barricades clearly visible with adequate illumination to provide sufficient visual warning of the hazard during both day and night.

PART 3 EXECUTION

3.1 EMPLOYEE PARKING

Contractor employees will park privately owned vehicles in an area designated by the Owner. This area will be within reasonable walking distance of the construction site. Contractor employee parking must not interfere with existing and established parking requirements of the facility.

3.2 AVAILABILITY AND USE OF UTILITY SERVICES

3.2.1 Temporary Utilities

Provide temporary utilities required for construction. Materials may be

new or used, must be adequate for the required usage, not create unsafe conditions, and not violate applicable codes and standards.

3.2.2 Sanitation

a. Provide temporary sanitation facilities that are self-contained units with both urinals and stool capabilities. Ventilate the units to control odors and fumes and empty and clean them at least once a week or more often if required by the Owner. The doors shall be self-closing. Locate the facility out of the public view.

3.2.3 Telephone

Make arrangements and pay all costs for telephone facilities desired.

3.2.4 Fire Protection

Provide temporary fire protection equipment for the protection of personnel and property during construction. Remove debris and flammable materials daily to minimize potential hazards.

3.3 TRAFFIC PROVISIONS

3.3.1 Maintenance of Traffic

a. Conduct operations in a manner that will not close any thoroughfare or interfere in any way with traffic highways except with written permission of the Owner at least 15 calendar days prior to the proposed modification date.

3.4 CONTRACTOR'S TEMPORARY FACILITIES

3.4.1 Storage Area

Construct a temporary 6 foot high chain link fence around trailers and materials. Fence posts may be driven, in lieu of concrete bases, where soil conditions permit. Do not place or store Trailers, materials, or equipment outside the fenced area. Trailers, equipment, or materials must not be open to public view with the exception of those items which are in support of ongoing work on any given day. Do not stockpile materials outside the fence in preparation for the next day's work. Park mobile equipment, such as tractors, wheeled lifting equipment, cranes, trucks, and like equipment within the fenced area at the end of each work day.

3.4.2 Appearance of Trailers

a. Trailers utilized by the Contractor for administrative or material storage purposes must present a clean and neat exterior appearance and be in a state of good repair. Trailers which, in the opinion of the Owner, require exterior painting or maintenance will not be allowed on the Owner's property.

3.4.3 Maintenance of Storage Area

a. Keep fencing in a state of good repair and proper alignment. Grassed or unpaved areas, which are not established roadways, will be covered with a layer of gravel as necessary to prevent rutting and the tracking of mud onto paved or established roadways, should the Contractor elect to traverse them with construction equipment or other

vehicles; gravel gradation will be at the Contractor's discretion. Grass and vegetation along fences, buildings, under trailers, and in areas not accessible to mowers will be edged or trimmed neatly.

3.4.4 Security Provisions

Provide adequate outside security lighting at the Contractor's temporary facilities. The Contractor will be responsible for the security of its own equipment; in addition, the Contractor will notify the appropriate law enforcement agency requesting periodic security checks of the temporary project field office.

3.4.5 Storage Size and Location

The open site available for storage must be within 1,000 feet of the operations area. The storage area will be approximately 5,000 square feet.

3.4.6 Storage in Existing Buildings

The Contractor will be working on an existing building; the storage of material will not be allowed in the building.

3.4.7 Weather Protection of Temporary Facilities and Stored Materials

Take necessary precautions to ensure that roof openings and other critical openings in the building are monitored carefully. Take immediate actions required to seal off such openings when rain or other detrimental weather is imminent, and at the end of each workday. Ensure that the openings are completely sealed off to protect materials and equipment in the building from damage.

3.4.7.1 Building and Site Storm Protection

When a warning of gale force winds is issued, take precautions to minimize danger to persons, and protect the work and nearby property. Precautions must include, but are not limited to, closing openings; removing loose materials, tools and equipment from exposed locations; and removing or securing scaffolding and other temporary work. Close openings in the work when storms of lesser intensity pose a threat to the work or any nearby property.

3.5 CLEANUP

Remove construction debris, waste materials, packaging material and the like from the work site daily. Any dirt or mud which is tracked onto paved or surfaced roadways must be cleaned away. Store any salvageable materials resulting from demolition activities within the fenced area described above. Neatly stack stored materials not in trailers, whether new or salvaged.

3.6 RESTORATION OF STORAGE AREA

Upon completion of the project remove the barricades, and any other temporary products from the site. After removal of trailers, materials, and equipment from within the fenced area, remove the fence that will become the property of the Contractor. Restore areas used by the Contractor for the storage of equipment or material, or other use to the original or better condition. Remove gravel used to traverse grassed areas and restore the area to its original condition, including top soil

and seeding as necessary.

-- End of Section --

SECTION 01 57 19.00 20

TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
40 CFR 241	Guidelines for Disposal of Solid Waste
40 CFR 243	Guidelines for the Storage and Collection of Residential, Commercial, and Institutional Solid Waste
40 CFR 258	Subtitle D Landfill Requirements
40 CFR 260	Hazardous Waste Management System: General
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Standards Applicable to Generators of Hazardous Waste
40 CFR 263	Standards Applicable to Transporters of Hazardous Waste
40 CFR 264	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 266	Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
40 CFR 268	Land Disposal Restrictions
40 CFR 270	EPA Administered Permit Programs: The Hazardous Waste Permit Program
40 CFR 271	Requirements for Authorization of State Hazardous Waste Programs

40 CFR 272	Approved State Hazardous Waste Management Programs
40 CFR 273	Standards For Universal Waste Management
40 CFR 279	Standards for the Management of Used Oil
40 CFR 280	Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements
49 CFR 173	Shippers - General Requirements for Shipments and Packagings

1.2 DEFINITIONS

1.2.1 Sediment

Soil and other debris that have eroded and have been transported by runoff water or wind.

1.2.2 Solid Waste

Garbage, refuse, debris, sludge, or other discharged material, including solid, liquid, semisolid, or contained gaseous materials resulting from domestic, industrial, commercial, mining, or agricultural operations. Types of solid waste typically generated at construction sites may include:

- a. Green waste: The vegetative matter from landscaping, land clearing and grubbing, including, but not limited to, grass, bushes, scrubs, small trees and saplings, tree stumps and plant roots. Marketable trees, grasses and plants that are indicated to remain, be re-located, or be re-used are not included.
- b. Debris: Non-hazardous solid material generated during the construction, demolition, or renovation of a structure which exceeds 2.5 inch particle size that is: a manufactured object; plant or animal matter; or natural geologic material (e.g. cobbles and boulders), broken or removed concrete, masonry, and rock asphalt paving; ceramics; roofing paper and shingles.
- c. Wood: Dimension and non-dimension lumber, plywood, chipboard, hardboard. Treated and/or painted wood that meets the definition of lead contaminated or lead based contaminated paint is not included.
- d. Scrap metal: Scrap and excess ferrous and non-ferrous metals such as reinforcing steel, structural shapes, pipe and wire that are recovered or collected and disposed of as scrap. Scrap metal meeting the definition of hazardous material or hazardous waste is not included.
- e. Paint cans: Metal cans that are empty of paints, solvents, thinners

and adhesives. If permitted by the paint can label, a thin dry film may remain in the can.

- f. Recyclables: Materials, equipment and assemblies such as doors, windows, door and window frames, plumbing fixtures, glazing and mirrors that are recovered and sold as recyclable.
- g. Hazardous Waste: By definition, to be a hazardous waste a material must first meet the definition of a solid waste. Hazardous waste and hazardous debris are special cases of solid waste. They have additional regulatory controls and must be handled separately. They are thus defined separately in this document.

1.2.3 Hazardous Debris

As defined in Solid Waste paragraph, debris that contains listed hazardous waste (either on the debris surface, or in its interstices, such as pore structure) per 40 CFR 261; or debris that exhibits a characteristic of hazardous waste per 40 CFR 261.

1.2.4 Chemical Wastes

This includes salts, acids, alkalizes, herbicides, pesticides, and organic chemicals.

1.2.5 Garbage

Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

1.2.6 Hazardous Waste

Any discarded material, liquid, solid, or gas, which meets the definition of hazardous material or is designated hazardous waste by the Environmental Protection Agency or State Hazardous Control Authority as defined in 40 CFR 260, 40 CFR 261, 40 CFR 262, 40 CFR 263, 40 CFR 264, 40 CFR 265, 40 CFR 266, 40 CFR 268, 40 CFR 270, 40 CFR 271, 40 CFR 272, 40 CFR 273, 40 CFR 279, and 40 CFR 280.

1.2.7 Hazardous Materials

Hazardous materials as defined in 49 CFR 171 and listed in 49 CFR 172.

Hazardous material is any material that:

- a. Is regulated as a hazardous material per 49 CFR 173, or
- b. Requires a Material Safety Data Sheet (MSDS) per 29 CFR 1910.120, or
- c. During end use, treatment, handling, packaging, storage, transpiration, or disposal meets or has components that meet or have potential to meet the definition of a hazardous waste as defined by 40 CFR 261 Subparts A, B, C, or D.

Designation of a material by this definition, when separately regulated or controlled by other instructions or directives, does not eliminate the need for adherence to that hazard-specific guidance which takes precedence over this instruction for "control" purposes. Such material include ammunition, weapons, explosive actuated devices, propellants,

pyrotechnics, chemical and biological warfare materials, medical and pharmaceutical supplies, medical waste and infectious materials, bulk fuels, radioactive materials, and other materials such as asbestos, mercury, and polychlorinated biphenyls (PCBs). Nonetheless, the exposure may occur incident to manufacture, storage, use and demilitarization of these items.

1.2.8 Waste Hazardous Material (WHM)

Any waste material which because of its quantity, concentration, or physical, chemical, or infectious characteristics may pose a substantial hazard to human health or the environment and which has been so designated. Used oil not containing any hazardous waste, as defined above, falls under this definition.

1.2.9 Oily Waste

Those materials which are, or were, mixed with used oil and have become separated from that used oil. Oily wastes also means materials, including wastewaters, centrifuge solids, filter residues or sludges, bottom sediments, tank bottoms, and sorbents which have come into contact with and have been contaminated by, used oil and may be appropriately tested and discarded in a manner which is in compliance with other State and local requirements.

This definition includes materials such as oily rags, "kitty litter" sorbent clay and organic sorbent material. These materials may be land filled provided that:

- a. It is not prohibited in other State regulations or local ordinances
- b. The amount generated is "de minimus" (a small amount)
- c. It is the result of minor leaks or spills resulting from normal process operations
- d. All free-flowing oil has been removed to the practical extent possible

Large quantities of this material, generated as a result of a major spill or in lieu of proper maintenance of the processing equipment, are a solid waste. As a solid waste, a hazardous waste determination must be performed prior to disposal. As this can be an expensive process, it is recommended that this type of waste be minimized through good housekeeping practices and employee education.

1.2.10 Regulated Waste

Those solid wastes that have specific additional Federal, state, or local controls for handling, storage, or disposal.

1.2.11 Universal Waste

The universal waste regulations streamline collection requirements for certain hazardous wastes in the following categories: batteries, pesticides, mercury-containing equipment (e.g., thermostats) and lamps (e.g., fluorescent bulbs). The rule is designed to reduce hazardous waste in the municipal solid waste (MSW) stream by making it easier for universal waste handlers to collect these items and send them for recycling or proper disposal. These regulations can be found at 40 CFR 273.

1.3 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Preconstruction Survey; G, A

SD-11 Closeout Submittals

Some of the records listed below are also required as part of other submittals. For the "Records" submittal, maintain on-site a separate three-ring Environmental Records binder and submit at the completion of the project. Make separate parts to the binder corresponding to each of the applicable sub items listed below.

Disposal Documentation for Hazardous and Regulated Waste

Solid Waste Management Report

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during normal construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Comply with Federal, State, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

1.5 QUALITY ASSURANCE

1.5.1 Preconstruction Survey

Perform a Preconstruction Survey of the project site with the Owner, and take photographs showing existing environmental conditions in and adjacent to the site. Submit a report for the record.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified. If the work is near streams, lakes, or other waterways, conform to the national permitting requirements of the Clean Water Act.

Do not disturb fish and wildlife. Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as indicated or specified.

Do not remove, cut, deface, injure, or destroy trees or shrubs without the Owner's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Owner. Where such use of attached ropes, cables, or guys is authorized, the Contractor will be responsible for any resultant damage.

Protect existing trees which are to remain and which may be injured, bruised, defaced, or otherwise damaged by construction operations. Remove trees and other landscape features scarred or damaged by equipment operations, and replace with equivalent, undamaged trees and landscape features.

3.2 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

Carefully protect in-place and report immediately to the Owner historical and archaeological items or human skeletal remains discovered in the course of work. Upon discovery, notify the Owner. Stop work in the immediate area of the discovery until directed by the Owner to resume work. The Owner retains ownership and control over historical and archaeological resources.

3.3 SOLID WASTE MANAGEMENT

3.3.1 Solid Waste Management Report

Monthly, submit a solid waste disposal report to the Owner. For each waste, the report will state the classification (using the definitions provided in this section), amount, location, and name of the business receiving the solid waste.

3.3.2 Control and Management of Solid Wastes

Pick up solid wastes, and place in covered containers which are regularly emptied. Do not prepare or cook food on the project site. Prevent contamination of the site or other areas when handling and disposing of wastes. At project completion, leave the areas clean. Recycling is encouraged. Remove all solid waste (including non-hazardous debris) from Owner property and dispose off-site at an approved landfill. Solid waste disposal off-site must comply with most stringent local, State, and Federal requirements including 40 CFR 241, 40 CFR 243, and 40 CFR 258.

Manage spent hazardous material used in construction, including but not limited to, aerosol cans, waste paint, cleaning solvents, contaminated brushes, and used rags, as per environmental law.

3.4 RELEASES/SPILLS OF OIL AND HAZARDOUS SUBSTANCES

Exercise due diligence to prevent, contain, and respond to spills of hazardous material, hazardous substances, hazardous waste, sewage, regulated gas, petroleum, lubrication oil, and other substances regulated by environmental law. Maintain spill cleanup equipment and materials at the work site. In the event of a spill, take prompt, effective action to stop, contain, curtail, or otherwise limit the amount, duration, and

severity of the spill/release. In the event of any releases of oil and hazardous substances, chemicals, or gases; immediately (within 15 minutes) notify the Base or Activity Fire Department, the activity's Command Duty Officer, and the Contracting Officer. If the contractor's response is inadequate, the Navy may respond. If this should occur, the contractor will be required to reimburse the government for spill response assistance and analysis.

-- End of Section --

SECTION 01 74 19

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

PART 1 GENERAL

1.1 GOVERNMENT POLICY

Owner policy is to apply sound environmental principles in the design, construction and use of facilities. As part of the implementation of that policy: (1) practice efficient waste management when sizing, cutting, and installing products and materials and (2) use all reasonable means to divert construction and demolition waste from landfills and incinerators and to facilitate their recycling or reuse.

1.2 MANAGEMENT

Develop and implement a waste management program. Take a pro-active, responsible role in the management of construction and demolition waste and require all subcontractors, vendors, and suppliers to participate in the effort. The Environmental Manager, as specified in Section 01 57 19.00 20 Temporary Environmental Controls, is responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the project. Construction and demolition waste includes products of demolition or removal, excess or unusable construction materials, packaging materials for construction products, and other materials generated during the construction process but not incorporated into the work. In the management of waste, consider the availability of viable markets, the condition of the material, the ability to provide the material in suitable condition and in a quantity acceptable to available markets, and time constraints imposed by internal project completion mandates. Implement any special programs involving rebates or similar incentives related to recycling of waste. Revenues or other savings obtained for salvage, or recycling accrue to the Contractor. Appropriately permit firms and facilities used for recycling, reuse, and disposal for the intended use to the extent required by federal, state, and local regulations. Also, provide on-site instruction of appropriate separation, handling, recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

1.3 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Waste Management Plan; G, A

SD-11 Closeout Submittals

Records;

1.4 MEETINGS

After award of the Contract and prior to commencement of work, schedule and conduct a meeting with the Owner to discuss the proposed Waste Management Plan and to develop a mutual understanding relative to the details of waste management. The requirements for this meeting may be fulfilled during the coordination and mutual understanding meeting outlined in Section 01 45 00.00 20 QUALITY CONTROL. At a minimum, discuss environmental and waste management goals and issues at the following additional meetings:

- a. Pre-bid meeting.
- b. Preconstruction meeting.
- c. Regular site meetings.
- d. Work safety meetings.

1.5 WASTE MANAGEMENT PLAN

Submit a waste management plan within 15 days after notice to proceed and not less than 10 days before the preconstruction meeting. Include the following in the plan:

- a. Name of individuals on the Contractor's staff responsible for waste prevention and management.
- b. Actions that will be taken to reduce solid waste generation, including coordination with subcontractors to ensure awareness and participation.
- c. Description of the regular meetings to be held to address waste management.
- d. Description of the specific approaches to be used in recycling/reuse of the various materials generated, including the areas on site and equipment to be used for processing, sorting, and temporary storage of wastes.
- e. Characterization, including estimated types and quantities, of the waste to be generated.
- f. Name of landfill to be used and the estimated costs for use, assuming that there would be no salvage or recycling on the project.
- g. Identification of local and regional reuse programs, including non-profit organizations such as schools, local housing agencies, and organizations that accept used materials such as materials exchange networks and Habitat for Humanity. Include the name, location, and phone number for each reuse facility to be used, and provide a copy of the permit or license for each facility.
- h. List of specific waste materials that will be salvaged for resale, salvaged and reused on the current project, salvaged and stored for reuse on a future project, or recycled. Identify the recycling facilities by name, location, and phone number, including a copy of the permit or license for each facility.
- i. Identification of materials that cannot be recycled/reused with an

explanation or justification, to be approved by the Contracting Officer.

- j. Description of the means by which any waste materials identified in item (h) above will be protected from contamination.
- k. Description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site).
- l. Anticipated net cost savings determined by subtracting Contractor program management costs and the cost of disposal from the revenue generated by sale of the materials and the incineration and/or landfill cost avoidance.

Revise and resubmit Plan as required by the Owner. Approval of Contractor's Plan will not relieve the Contractor of responsibility for compliance with applicable environmental regulations. Distribute copies of the Waste Management Plan to each subcontractor, the Quality Control Manager, and the Owner.

1.6 RECORDS

Maintain records to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill. Quantities may be measured by weight or by volume, but must be consistent throughout. List each type of waste separately noting the disposal or diversion date. Identify the landfill, recycling center, waste processor, or other organization used to process or receive the solid waste. Provide explanations for any waste not recycled or reused. With each application for payment, submit updated documentation for solid waste disposal and diversion, and submit manifests, weight tickets, receipts, and invoices specifically identifying the project and waste material. Make the records available to the Owner during construction, and deliver to the Owner upon completion of the construction a copy of the records.

1.7 COLLECTION

Separate, store, protect, and handle at the site identified recyclable and salvageable waste products in a manner that maximizes recyclability and salvagability of identified materials. Provide the necessary containers, bins and storage areas to facilitate effective waste management and clearly and appropriately identify them. Provide materials for barriers and enclosures around recyclable material storage areas which are nonhazardous and recyclable or reusable. Locate out of the way of construction traffic. Provide adequate space for pick-up and delivery and convenience to subcontractors. Recycling and waste bin areas are to be kept neat and clean, and handle recyclable materials to prevent contamination of materials from incompatible products and materials. Clean contaminated materials prior to placing in collection containers. Use cleaning materials that are nonhazardous and biodegradable. Handle hazardous waste and hazardous materials in accordance with applicable regulations and coordinate with Section 01 57 19.00 20 TEMPORARY ENVIRONMENTAL CONTROLS. Separate materials by one of the following methods:

1.7.1 Source Separated Method.

Separate waste products and materials that are recyclable from trash and sorted as described below into appropriately marked separate containers and then transported to the respective recycling facility for further processing. Deliver materials in accordance with recycling or reuse facility requirements (e.g., free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process). Separate materials into the following category types as appropriate to the project waste and to the available recycling and reuse programs in the project area:

- a. Masonry.
- b. Metal (e.g. banding, ductwork, piping, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, lead brass, bronze).
 - (1) Ferrous.
 - (2) Non-ferrous.
- c. Wood (nails and staples allowed).
- d. Debris.

Paper.

- (1) Bond.
- (2) Newsprint.
- (3) Cardboard and paper packaging materials.

f. Plastic.

Type	
1	Polyethylene Terephthalate (PET, PETE)
2	High Density Polyethylene (HDPE)
3	Vinyl (Polyvinyl Chloride or PVC)
4	Low Density Polyethylene (LDPE)
5	Polypropylene (PP)
6	Polystyrene (PS)
7.	Other. Use of this code indicates that the package in question is made with a resin other than the six listed above, or is made of more than one resin listed above, and used in a multi-layer combination.

g. Gypsum.

h. Non-hazardous paint and paint cans.

i. Insulation.

j. Beverage containers.

1.8 DISPOSAL

Control accumulation of waste materials and trash. Recycle or dispose of collected materials off-site at intervals approved by the Owner and in compliance with waste management procedures. Except as otherwise specified in other sections of the specifications, dispose of in accordance with the following:

1.8.1 Reuse.

Give first consideration to salvage for reuse since little or no re-processing is necessary for this method, and less pollution is created when items are reused in their original form. Consider sale or donation of waste suitable for reuse.

1.8.2 Recycle.

Recycle waste materials not suitable for reuse, but having value as being recyclable. Arrange for timely pickups from the site or deliveries to recycling facilities in order to prevent contamination of recyclable materials.

1.8.3 Waste.

Dispose of materials with no practical use or economic benefit to waste-to-energy plants where available. As the last choice, dispose of materials at a landfill.

1.8.4 Return

Set aside and protect misdelivered and substandard products and materials and return to supplier for credit.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used. -- End of Section --

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.1 DEFINITIONS

1.1.1 As-Built Drawings

As-built drawings are developed and maintained by the Contractor and depict actual conditions, including deviations from the Contract Documents. These deviations and additions may result from coordination required by, but not limited to: contract modifications; official responses to Contractor submitted Requests for Information; direction from the Architect/Engineer; designs which are the responsibility of the Contractor, and differing site conditions. Maintain the as-builts throughout construction as red-lined hard copies on site. These files serve as the basis for the creation of the record drawings.

1.2 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-08 Manufacturer's Instructions

Preventative Maintenance

SD-11 Closeout Submittals

As-Built Drawings; G, A

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 AS-BUILT DRAWINGS

Provide and maintain two black line print copies of the PDF contract drawings for As-Built Drawings. Submit As-Built Drawings 30 days prior to Material completion date.

3.1.1 Markup Guidelines

Make comments and markup the drawings complete without reference to letters, memos, or materials that are not part of the As-Built drawing. Show what was changed, how it was changed, where items(s) were relocated and change related details. These working as-built markup prints must be neat, legible and accurate as follows:

- a. Use base colors of red, green, and blue. Color code for changes as follows:
 - (1) Special (Blue) - Items requiring special information, coordination, or special detailing or detailing notes.
 - (2) Deletions (Red) - Over-strike deleted graphic items (lines), lettering in notes and leaders.
 - (3) Additions (Green) - Added items, lettering in notes and leaders.
 - b. Provide a legend if colors other than the "base" colors of red, green, and blue are used.
 - c. Add and denote any additional equipment or material facilities, service lines, incorporated under As-Built Revisions if not already shown in legend.
 - d. Use frequent written explanations on markup drawings to describe changes. Do not totally rely on graphic means to convey the revision.
 - e. Use legible lettering and precise and clear digital values when marking prints. Clarify ambiguities concerning the nature and application of change involved.
 - f. Wherever a revision is made, also make changes to related section views, details, legend, profiles, plans and elevation views, schedules, notes and call out designations, and mark accordingly to avoid conflicting data on all other sheets.
 - g. For deletions, cross out all features, data and captions that relate to that revision.
 - h. For changes on small-scale drawings and in restricted areas, provide large-scale inserts, with leaders to the applicable location.
 - i. Indicate one of the following when attaching a print or sketch to a markup print:
 - 1) Add an entire drawing to contract drawings
 - 2) Change the contract drawing to show
 - 3) Provided for reference only to further detail the initial design.
 - j. Incorporate all shop and fabrication drawings into the markup drawings.
- 3.2 CLEANUP

Leave premises "broom clean." Use only nonhazardous cleaning materials, including natural cleaning materials, in the final cleanup. Clean exterior glass surfaces exposed to view; remove temporary labels, stains and foreign substances; polish transparent and glossy surfaces. Clean debris from roofs, gutters, downspouts and drainage systems. Sweep paved areas and rake clean landscaped areas. Remove waste and surplus materials, rubbish and construction facilities from the site. Recycle, salvage, and return construction and demolition waste from project in accordance with Section 01 57 19.00 20 TEMPORARY ENVIRONMENTAL CONTROLS, and 01 74 19 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT.

-- End of Section --

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1 (2014) Safety and Health Requirements Manual

1.2 PROJECT DESCRIPTION

1.2.1 General Requirements

Do not begin demolition until authorization is received from the Owner. The work of this section is to be performed in a manner that maximizes the value derived from the salvage and recycling of materials. Remove rubbish and debris from the project site; do not allow accumulations inside or outside the building or on pavements. The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from Owner property daily, unless otherwise directed. Store materials that cannot be removed daily in areas specified by the Owner. In the interest of occupational safety and health, perform the work in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections.

1.3 ITEMS TO REMAIN IN PLACE

Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Owner. Repair or replace damaged items as approved by the Owner. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements or pavements to remain. Provide new supports and reinforcement for existing construction weakened by demolition, deconstruction, or removal work. Repairs, reinforcement, or structural replacement require approval by the Owner prior to performing such work.

1.3.1 Existing Construction Limits and Protection

Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide temporary shoring and bracing for support of building components to prevent settlement or other movement. Provide protective measures to control accumulation and migration of dust and dirt in all work areas. Remove dust, dirt, and debris from work areas daily.

1.3.2 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas.

1.3.3 Trees

Protect trees within the project site which might be damaged during demolition. Replace any tree designated to remain that is damaged during the work under this contract with like-kind or as approved by the Owner.

1.3.4 Utility Service

Maintain existing utilities indicated to stay in service and protect against damage during demolition operations.

1.4 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.5 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Existing Conditions

SD-11 Closeout Submittals

Receipts

1.6 DEBRIS REMOVAL

Comply with federal, state, and local hauling and disposal regulations.

1.6.1 Dust and Debris Control

Prevent the spread of dust and debris to occupied portions of the building and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution. Sweep pavements as often as necessary to control the spread of debris that may result in foreign object damage potential to vehicles.

1.7 PROTECTION

1.7.1 Traffic Control Signs

a. Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights.

1.7.2 Protection of Personnel

Before, during and after the demolition work continuously evaluate the condition of the structure and take immediate action to protect all personnel working in and around the project site. No area, section, or component of floors, roofs, walls, or other structural element will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.8 FOREIGN OBJECT DAMAGE (FOD)

Vehicles are subject to FOD from debris and waste material lying on pavements. Remove all such materials that may appear on pavements due to the Contractor's operations.

1.9 RELOCATIONS

Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair or replace items to be relocated which are damaged by the Contractor with new undamaged items as approved by the Owner.

1.10 EXISTING CONDITIONS

Before beginning any demolition work, survey the site and examine the drawings and specifications to determine the extent of the work. Record existing conditions in the presence of the Owner showing the condition of structures and other facilities adjacent to areas of alteration or removal. Photographs sized 4 inch will be acceptable as a record of existing conditions. Include in the record the location and extent of existing cracks and other damage and description of conditions that exist prior to before starting work.

PART 2 PRODUCTS

NOT USED

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

Inspect and evaluate existing structures onsite for reuse. Existing construction scheduled to be removed for reuse shall be disassembled. Dismantled and removed materials are to be separated, set aside, and prepared as specified, and stored or delivered to a collection point for reuse, remanufacture, recycling, or other disposal, as specified. Materials shall be designated for reuse onsite whenever possible.

3.1.1 Roofing

Remove built-up roofing to effect the connections with new flashing or roofing. Remove gravel surfacing from existing roofing felts. Remove gravel without damaging felts. Remove roofing system without damaging the roof deck. Sequence work to minimize building exposure between demolition and new roof material installation.

3.1.1.1 Temporary Roofing

Install temporary roofing and flashing as necessary to maintain a watertight condition throughout the course of the work.

3.1.1.2 Reroofing

When removing the existing roofing system from the roof deck, remove only as much roofing as can be recovered by the end of the work day. Do not attempt to open the roof covering system in threatening weather. Reseal all openings prior to suspension of work the same day.

3.1.2 Masonry

Sawcut and remove masonry so as to prevent damage to surfaces to remain and to facilitate the installation of new work.

3.1.3 Patching

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible as to texture and finish.

3.1.4 Mechanical Equipment

Disconnect mechanical equipment at the nearest connection to existing services to remain, unless otherwise noted.

3.2 DISPOSITION OF MATERIAL

3.2.1 Title to Materials

Except for salvaged items specified in related Sections, and for materials or equipment scheduled for salvage, all materials and equipment removed and not reused or salvaged, shall become the property of the Contractor and shall be removed from the project site. Title to materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon authorization by the Owner to begin demolition. The Owner will not be responsible for the condition or loss of, or damage to, such property after contract award. Showing for sale or selling materials and equipment on site is prohibited.

3.2.2 Reuse of Materials and Equipment

Remove and store materials and equipment indicated to be reused or relocated to prevent damage, and reinstall as the work progresses.

3.3 CLEANUP

Remove and transport the debris in a manner that prevents spillage on streets or adjacent areas. Follow State and local regulations regarding hauling.

3.4 DISPOSAL OF REMOVED MATERIALS

3.4.1 Regulation of Removed Materials

Dispose of debris, rubbish, scrap, and other nonsalvageable materials resulting from removal operations with all applicable federal, state and local regulations. Storage of removed materials on the project site is prohibited.

3.5 REUSE OF SALVAGED ITEMS

Recondition salvaged materials and equipment designated for reuse before installation. Replace items damaged during removal and salvage operations or restore them as necessary to usable condition.

-- End of Section --

SECTION 07 41 63

FABRICATED ROOF PANEL ASSEMBLIES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI SG03-3 (2002; Suppl 2001-2004; R 2008)
Cold-Formed Steel Design Manual Set

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 7 (2010; Errata 2011; Supp 1 2013) Minimum
Design Loads for Buildings and Other
Structures

ASTM INTERNATIONAL (ASTM)

ASTM A1008/A1008M (2013) Standard Specification for Steel,
Sheet, Cold-Rolled, Carbon, Structural,
High-Strength Low-Alloy and High-Strength
Low-Alloy with Improved Formability,
Solution Hardened, and Bake Hardened

ASTM A36/A36M (2014) Standard Specification for Carbon
Structural Steel

ASTM A653/A653M (2013) Standard Specification for Steel
Sheet, Zinc-Coated (Galvanized) or
Zinc-Iron Alloy-Coated (Galvannealed) by
the Hot-Dip Process

ASTM B117 (2011) Standard Practice for Operating
Salt Spray (Fog) Apparatus

ASTM B659 (1990; R 2014) Standard Guide for
Measuring Thickness of Metallic and
Inorganic Coatings

ASTM C920 (2014a) Standard Specification for
Elastomeric Joint Sealants

ASTM D1308 (2013) Effect of Household Chemicals on
Clear and Pigmented Organic Finishes

ASTM D2244 (2015) Calculation of Color Tolerances and
Color Differences from Instrumentally
Measured Color Coordinates

ASTM D2247 (2011) Testing Water Resistance of

	Coatings in 100% Relative Humidity
ASTM D2794	(1993; R 2010) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D333	(2001; R 2013) Standard Guide for Clear and Pigmented Lacquers
ASTM D3363	(2005; E 2011; R 2011; E 2012) Film Hardness by Pencil Test
ASTM D4214	(2007) Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films
ASTM D522	(1993a; R 2008) Mandrel Bend Test of Attached Organic Coatings
ASTM D523	(2014) Standard Test Method for Specular Gloss
ASTM D714	(2002; R 2009) Evaluating Degree of Blistering of Paints
ASTM D822	(2001; R 2006) Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings
ASTM D968	(2005; R 2010) Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM E119	(2014) Standard Test Methods for Fire Tests of Building Construction and Materials
ASTM E136	(2012) Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C
ASTM E1592	(2005; R 2012) Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
ASTM E2140	(2001; R 2009) Standard Test Method for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head
ASTM E84	(2014) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM G152	(2013) Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G153	(2013) Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA)

MBMA RSDM (2000) Metal Roofing Systems Design Manual

NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM)

NAAMM AMP 500 (2006) Metal Finishes Manual

NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)

NRCA 0405 (2001; 5th Ed) Roofing and Waterproofing Manual

NRCA 0409 (2006) Architectural Sheet Metal and Metal Roofing Manual

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA 1793 (2012) Architectural Sheet Metal Manual, 7th Edition

SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC PS 9.01 (1982; E 2004) Cold-Applied Asphalt Mastic Painting System with Extra-Thick Film

UNDERWRITERS LABORATORIES (UL)

UL 580 (2006; Reprint Oct 2013) Tests for Uplift Resistance of Roof Assemblies

1.2 PERFORMANCE REQUIREMENTS

- a. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E2140.
- b. Wind-Uplift Resistance: Provide roof panel assemblies that comply with the requirements of the roof systems and attachments in accordance with ASTM E1592 and UL 580. Uplifting force due to wind action governs the design for panels.

(1) Roof systems and attachments are to resist the wind loads as determined by ASCE 7-10 in pounds per square foot.

1.3 DEFINITIONS

Fabricated Roof Panel Assembly: Metal roof panels, attachment system components, miscellaneous metal framing, thermal insulation, curbs, penetration flashings, and accessories shop fabricated and field assembled for a complete weather-tight roofing system.

1.4 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Qualification of Manufacturer; G, A

Qualification of Installer; G, A

SD-02 Shop Drawings

Roofing Panels; G, A

Flashing and Accessories; G, A

Gutter/Downspout Assembly; G, A

SD-03 Product Data

Factory Color Finish; G, A

Sub-girts and Formed Shapes; G, A

Closure Materials; G, A

Insulation; G, A

Pressure Sensitive Tape; G, A

Sealants and Caulking; G, A

Accessories; G, A

SD-04 Samples

Manufacturer's Color Charts and Chips; G, A

SD-05 Design Data

Wind Design Analysis; G, A

SD-06 Test Reports

Test Reports; G, A

Leakage Tests; G, A

Fire Rating Test Report; G, A

Coatings and Base Metals of Metal Roofing; G, A

Factory Finish and Color Performance Requirements; G, A

Wind Uplift Test Report; G, A

SD-07 Certificates

Coil Stock; G, A

Fasteners; G, A

SD-08 Manufacturer's Instructions

Installation of Roof Panel Assemblies; G, A

SD-11 Closeout Submittals

Warranty; G, A

Manufacturer's Field Inspection Reports; G, A

Instructions; G, A

Date Of Installation Wall-Mounted Placard; G, A

20 year "No-Dollar-Limit" Warranty for Labor and Materials; G, A

1.5 QUALITY ASSURANCE

1.5.1 Pre-roofing Conference

After submittals are received and approved but before roofing and insulation work, including associated work, is performed, the Owner will hold a pre-roofing conference to review the following:

a. The drawings and specifications:

- (1) Fabrication and Installation drawings for the following items are to indicate completely dimensioned structural frame and erection layouts, openings in roof, special framing details and construction details at corners, ridges, eaves, building intersections, curbs and flashing, location and type of mastic and metal filler strips, location and erection of flashing and gutter/downspout assembly:
- (2) Installation of Roof panel assemblies
- (3) Roofing Panels
- (4) Flashing and Accessories
- (5) Gutter/Downspout Assembly

Submit certification from coil stock manufacturer or supplier that the machinery used will form the provided coil stock without warping, waviness, or rippling that is not a part of the panel profile, and without damage, abrasion or marring of the finish coating, and certification of conformance with the standards specified herein.

Submit manufacturer's color charts and chips, approximately 4 by 4 inches, showing full range of colors, textures and patterns available for roof panels with Factory Color Finish.

Submit Factory Finish and Color Performance Requirements verified by an independent testing agency.

Submit a wind design analysis from the manufacturer including, but not limited to, wind speed, exposure category, co-efficient, importance factor, designate type of facility, negative pressures for each zone, methods and requirements of attachment. Include a roof plan delineating

dimensions and attachment patterns for each zone. Prepare signed and sealed wind design analysis with a Licensed Project Engineer, in the geographic area where the construction will take place.

(6) Wind Uplift Test Report

(7) Fire Rating Test Report

b. Qualifications including:

(1) Qualification of Manufacturer

Certify that the manufacturer of the metal roofing system meets requirements specified.

(2) Qualification of Installer

Certify that the applicator meets requirements specified, and provide evidence that products used within this specification are manufactured in the United States.

c. Submit procedure for on site inspection and acceptance of the roofing substrate and pertinent structural details relating to the roofing system, including; but not limited to:

(1) Material Safety Data Sheets

(2) Sub-girts and Formed Shapes

(3) Closure Materials

(4) Insulation

(5) Pressure Sensitive Tape

(6) Sealants and Caulking

(7) Rated Wall Assembly

(8) Accessories

d. Submit plan for coordination of the work of the various trades involved in providing the roofing system and other components secured to the roofing.

Include detailed application instructions and standard manufacturer drawings altered as required by these specifications. Explicitly identify in writing, differences between manufacturer's instructions and the specified requirements.

e. Safety requirements

f. Submit Manufacturer's data indicating percentage of recycle material in roofing panels to verify sustainable acquisition compliance.

1.5.2 Manufacturer's Technical Representative

Ensure the representative has authorization from manufacturer to approve field changes and is thoroughly familiar with the products and

installations in the geographical area where construction will take place.

1.5.3 Qualification of Manufacturer

Guarantee the metal roof panel system manufacturer possesses the following:

- a. A minimum of five years experience in manufacturing metal roof system and accessory products.
- b. Engineering services of an authorized engineer; currently licensed in the geographical area where construction will take place, having a minimum of four years experience as an engineer knowledgeable in roof wind design analysis, protocols and procedures for the MBMA Metal Roofing System Design Manual; ASCE 7, UL 580 and FM wind design guide for metal roof systems.
- c. Certified engineering calculations using the products submitted for:

Wind uplift requirements in accordance with FM Wind Design Guide and ASCE 7-10.

1.5.4 Qualification of Installation Contractor

Confirm that the installation contractor is approved and certified by the roofing panel manufacturer prior to beginning the installation of the metal roofing system.

1.5.5 Single Source

Obtain each type of metal roof panel, clips, closures and other accessories from the standard products of the single source from a single manufacturer to operate as a complete system for the intended use.

1.5.6 Surface-Burning Characteristics

Provide metal roof panels having insulation core material with the following surface-burning characteristics as determined by testing identical products according to ASTM E84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

Flame-Spread Index: 25 or less.

Smoke-Developed Index: 450 or less.

1.5.7 Fire-Resistance Ratings

Where indicated, provide metal roof panels identical to those of assemblies tested for fire resistance per ASTM E119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency. Combustion Characteristics: ASTM E136.

1.5.8 Fabrication

Fabricate and finish metal roof panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and

processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles, dimensional and structural requirements conforming to AISI SG03-3.

Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

Fabricate metal roof panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weather-tight and minimize noise from movements within panel assembly.

Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA 1793 that apply to the design, dimensions, metal, and other characteristics of item indicated.

Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

End Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.

Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA 1793.

Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.

Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA 1793 or by metal roof panel manufacturer for application, but not less than thickness of metal being secured.

1.5.9 Finishes

Comply with NAAMM AMP 500 for recommendations for applying and designating finishes.

Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

1.6 DELIVERY, HANDLING, AND STORAGE

Deliver components, sheets, metal roof panels, and other manufactured items to prevent damage or deformation; package metal roof panels for protection during transportation and handling.

Unload, store, and erect metal roof panels in a manner to prevent bending, warping, twisting, and surface damage.

Stack metal roof panels on platforms or pallets, covered with suitable weather-tight and ventilated covering; store metal roof panels to ensure dryness. Do not store metal roof panels in contact with other materials that might cause staining, denting, or other surface damage.

Protect strippable protective covering on metal roof panels from exposure

to sunlight and high humidity, except to extent necessary for period of metal roof panel installation.

1.7 PROJECT CONDITIONS

Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit metal roof panel work to be performed according to manufacturer's written instructions and warranty requirements.

Field Measurements: Verify actual dimensions of construction contiguous with metal roof panels by field measurements before fabrication.

1.8 WARRANTY

Furnish the metal roof panel manufacturer's 20-year no dollar limit roof system materials and installation workmanship warranty, including flashing, insulation, components, trim, and accessories necessary for a watertight roof system construction. Make warranty directly to the Owner, commencing at time of Owner's acceptance of the roof work. Provide a warranty with the following conditions:

- a. If within the warranty period, the metal roof system, as installed for its intended use in the normal climatic and environmental conditions of the facility, becomes non-watertight, shows evidence of moisture intrusion within the assembly, displaces, corrodes, perforates, separates at the seams, or shows evidence of excessive weathering due to defective materials or installation workmanship, the repair or replacement of the defective and damaged materials of the metal roof system and correction of defective workmanship is the responsibility of the metal roof panel manufacturer. All costs associated with the repair or replacement work are the responsibility of the metal roof panel manufacturer.
- b. If the manufacturer or his approved applicator fail to perform the repairs within 72 hours of notification, emergency temporary repairs performed by others does not void the warranty.

1.8.1 Manufacturer's Finish Warranty

Provide a manufacturer's 20 year "No-Dollar-Limit" warranty for labor and materials for the roofing system. Issue the warranty directly to the Owner at the date of Owner acceptance warranting that the factory color finish, under normal atmospheric conditions at the site, will not crack, peel, or delaminate; chalk in excess of a numerical rating of 8 when measured in accordance with ASTM D4214; or fade or change colors in excess of 5 NBS units as measured in accordance with ASTM D2244.

1.8.2 Metal Roof System Installer Warranty

Provide roof system installer warranty for a period of not less than two years that the roof system, as installed, is free from defects in installation workmanship, to include the roof panel installation, flashing, insulation, accessories, attachments, and sheet metal installation integral to a complete watertight roof system assembly. Issue warranty directly to the Owner. Correction of defective workmanship and replacement of damaged or affected materials is the responsibility of the metal roof system installer. All costs associated with the repair or replacement work are the responsibility of the installer.

1.8.3 Continuance of Warranty

Approve and accomplish required repair or replacement work that becomes necessary within the warranty period in a manner so as to restore the integrity of the roof system assembly and maintain the validity of the metal roof system manufacturer warranty for the remainder of the manufacturer warranty period.

1.9 CONFORMANCE AND COMPATIBILITY

Provide an entire roofing and flashing system in accordance with specified and indicated requirements, including wind resistance requirements. Perform any work not specifically addressed, or any deviation from specified requirements in general accordance with recommendations of the MBMA RSDM, NRCA 0405, the metal panel manufacturer's published recommendations and details, and compatible with surrounding components and construction. Submit any deviation from specified or indicated requirements to the Contracting Officer for approval prior to installation.

PART 2 PRODUCTS

2.1 PANEL MATERIALS

2.1.1 Steel Sheet

Provide roll-form steel roof and liner panels to the specified profile, with f_y equals 50 ksi, 24 gauge and depth as indicated, conforming to ASTM A1008/A1008M, ASTM A36/A36M. Ensure the material is plumb and true, and within the tolerances listed:

- a. Individual panels to have continuous length to cover the entire length of any unbroken roof slope with no joints or seams and formed without warping, waviness, or ripples that are not part of the panel profile and free of damage to the finish coating system.
- b. Provide panels with thermal expansion and contraction consistent with the type of system specified.
 - (1) Profile: a 2 inch high standing seam, 16 inch coverage, with mechanical crimping seams with concealed clips and fasteners.
 - (2) Provide smooth, flat surface texture.

2.1.2 Finish

All panels are to receive a factory-applied polyvinylidene fluoride Kynar 500/Hylar 5000 finish consisting of a baked-on top-coat with a manufacturer's recommended prime coat conforming to the following:

- a. Metal Preparation: All metal is to have the surfaces carefully prepared for painting on a continuous process coil coating line by alkali cleaning, hot water rinsing, application of chemical conversion coating, cold water rinsing, sealing with acid rinse, and thorough drying.
- b. Prime Coating: Apply a base coat of epoxy paint, specifically formulated to interact with the top-coat, to the prepared surfaces by roll coating to a dry film thickness of 0.20 plus 0.05 mils. Ensure the prime coat is oven cured prior to application of finish coat.

- c. Exterior Finish Coating: Apply the finish coating over the primer by roll coating to dry film thickness of 0.80 plus 5 mils for a total dry film thickness of 1.00 plus 0.10 mils. Ensure the finish coat is oven-cured.
- d. Interior Finish Coating: Apply a wash-coat on the reverse side over the primer by roll coating to a dry film thickness of 0.30 plus 0.05 mils for a total dry film thickness of 0.50 plus 0.10 mils. Ensure the wash-coat is oven-cured.
- e. Color: The exterior finish chosen from the manufacturer's standard color chart.
- f. Physical Properties: Provide coating conforming to the industry and manufacturer's standard performance criteria as listed by the following certified test reports:
 - (1) Chalking: ASTM D333
 - (2) Coating Thickness: ASTM B659
 - (3) Color Change and Conformity: ASTM D2244
 - (4) Weatherometer: ASTM G152, ASTM G153 and ASTM D822
 - (5) Humidity: ASTM D2247 and ASTM D714
 - (6) Salt Spray: ASTM B117
 - (7) Chemical Pollution: ASTM D1308
 - (8) Gloss at 60: ASTM D523
 - (9) Pencil Hardness: ASTM D3363
 - (10) Reverse Impact: ASTM D2794
 - (11) Flexibility: ASTM D522
 - (12) Abrasion: ASTM D968
 - (13) Flame Spread: ASTM E84

2.2 METAL FRAMING

2.2.1 General

Cold-formed metallic-coated steel sheet conforming to AISI SG03-3 and ASTM A653/A653M unless other wise indicated.

2.2.2 Fasteners for Metal Framing

Type, material, corrosion resistance, size and sufficient length to penetrate the supporting member a minimum of 1 inch with other properties required to fasten miscellaneous metal framing members to substrates in accordance with the roof panel manufacturer's and ASCE 7-10 requirements.

2.3 FASTENERS

2.3.1 General

Type, material, corrosion resistance, size and sufficient length to penetrate the supporting member a minimum of 1 inch with other properties required to fasten miscellaneous metal framing members to substrates in accordance with the roof panel manufacturer's and ASCE 7 requirements.

2.3.2 Premium (Long Life) Exposed Fasteners

Provide corrosion resistant coated steel or stainless steel exposed fasteners with the sheet panel or flashing and of a type and size recommended by the manufacturer to meet the performance requirements and design loads. Provide manufacturer's standard fasteners for accessories. Provide an integral hexhead with shroud matching the color of attached material with compressible sealing EPDM gasket approximately 3/32 inch thick.

2.3.3 Screws

Provide corrosion resistant coated steel, aluminum and/or stainless steel screws of the type and size recommended by the manufacturer to meet the performance requirements.

2.3.4 Rivets

Provide closed-end type rivets, made of corrosion resistant coated steel, aluminum or stainless steel where watertight connections are required.

2.3.5 Attachment Clips

Fabricate clips from steel hot-dipped galvanized in accordance with ASTM A653/A653M Z275 G 90 or Series 300 stainless steel. Size, shape, thickness and capacity as required meeting the insulation thickness and design load criteria specified.

2.4 ACCESSORIES

2.4.1 General

Provide only accessories which are compatible with the metal roof panels. Sheet metal flashing, trim, metal closure strips, caps and similar metal accessories can not be less than the minimum thickness specified for the roof panels. Exposed metal accessories/finishes to match the panels furnished, except as otherwise indicated.

2.4.2 Metal Closure Strips

Factory fabricated steel closure strips to be the same gauge color, finish and profile of the specified roof panel.

2.4.3 Joint Sealants

2.4.3.1 Sealants

Provide an approved gun type sealant for use in hand- or air-pressure caulking guns at temperatures above 40 degrees F (or frost-free application at temperatures above 10 degrees F with minimum solid content

of 85 percent of the total volume. Provide sealant that has a tough, durable dry surface skin which permits it to remain soft and pliable underneath, providing a weather-tight joint. No migratory staining is permitted on painted or unpainted metal, stone, glass, vinyl, or wood.

Prime all joints to receive sealants with a compatible one-component or two-component primer as recommended by the roof panel manufacturer.

- a. Shop Applied Caulking: An approved gun grade, non-sag one component polysulfide or silicone conforming to ASTM C920, Type II, with a curing time to ensure the sealant's plasticity at the time of field erection.
- b. Field Applied Caulking: An approved gun grade, non-sag one component polysulfide or two-component polyurethane with an initial maximum Shore A durometer hardness of 25, conforming to ASTM C920, Type II. Match color to panel colors.
- c. Tape Sealant: Pressure sensitive, 100 percent solid with a release paper backing; permanently elastic, non-sagging, non-toxic and non-staining as approved by the roof panel manufacturer.

2.5 SHEET METAL FLASHING AND TRIM

2.5.1 Fabrication, General

Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA 1793 that apply to the design, dimensions, metal and other characteristics of the items indicated. Shop fabricated items where practicable. Obtain field measurements for accurate fit before shop fabrication.

2.5.2 Roof Drainage Sheet Metal Fabrications

- a. Gutters: Fabricate to cross section indicated, with riveted and soldered joints, complete with end pieces, outlet tubes, and other special accessories as required. Fabricate in minimum 96-inch long sections. Fabricate expansion joints and accessories from same metal as gutters, unless otherwise indicated.
- b. Downspouts: Fabricate rectangular downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts and anchors.

PART 3 EXECUTION

3.1 EXAMINATION

Owner may request verification and certification testing of coatings and base metals of metal roofing prior to installation.

- a. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal roof panel supports, and other conditions affecting performance of the work.
- b. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer, UL, ASTM, ASCE 7-10 and as

required for the geographical area where construction will take place.

- c. Examine roughing-in for components and systems penetrating metal roof panels to verify actual locations of penetrations relative to seam locations of metal roof panels before metal roof panel installation.
- d. Submit to the Owner a written report, endorsed by Installer, listing conditions detrimental to performance of the work.
- e. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- a. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.
- b. Miscellaneous Framing: Install sub-purlins, eave angles, furring, and other miscellaneous roof panel support members and anchorage according to metal roof panel manufacturer's written instructions.

3.3 ROOF PANEL INSTALLATION

Provide metal roof panels of full length from eave to ridge or eave to wall as indicated. Anchor metal roof panels and other components of the Work securely in place, with provisions for thermal and structural movement in accordance with NRCA 0409.

Steel Roof Panels: Use stainless-steel fasteners for exterior surfaces and galvanized steel fasteners for interior surfaces.

Anchor Clips: Anchor metal roof panels and other components of the work securely in place, using manufacturer's approved fasteners according to manufacturers' written instructions.

Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating conforming to SSPC PS 9.01, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.

Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal roof panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal roof panel manufacturer.

Erect roofing system in accordance with the approved erection drawings, the printed instructions and safety precautions of the manufacturer.

Do not subject sheets to overloading, abuse, or undue impact. Do not apply bent, chipped, or defective sheets.

Erect sheets true and plumb and in exact alignment with the horizontal and vertical edges of the building, securely anchored, and with the indicated rake, eave, and curb overhang.

Allow for thermal movement of the roofing, movement of the building

structure, and provide permanent freedom from noise due to wind pressure.

Field cutting metal roof panels by torch, chop saw, or grinder is not permitted.

Do not permit storage, walking, wheeling, and trucking directly on applied roofing materials. Provide temporary walkways, runways, and platforms of smooth clean boards or planks as necessary to avoid damage to the installed roofing materials, and to distribute weight to conform to the indicated live load limits of roof construction.

3.4 FASTENER INSTALLATION

Anchor metal roof panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturer's written instructions.

3.5 FLASHING, TRIM AND CLOSURE INSTALLATION

3.5.1 General Requirements

Comply with performance requirements, manufacturer's written installation instructions, and SMACNA 1793. Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

Install sheet metalwork to form weather-tight construction without waves, warps, buckles, fastening stresses or distortion, and allow for expansion and contraction. Perform cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate the work of other trades by sheet metal mechanics.

3.5.2 Metal Flashing

Install metal flashing at building corners, rakes and eaves, junctions between metal siding and roofing, valleys and changes of slope or direction in metal roofing, and building expansion joints and gutters.

Provide exposed metal flashing that is the same material, color, and finish as the specified metal roofing.

Fasten flashing at not more than 8 inches on center for roofs, except where flashing are held in place by the same screws that secure covering sheets.

Furnish flashing in at least 8-foot lengths. Provide exposed flashing that has one inch locked and blind-soldered end joints, and expansion joints at intervals of not more than 16 feet.

Bed exposed flashing and flashing subject to rain penetration in the specified joint sealant.

Isolate flashing which is in contact with dissimilar metals by means of the specified asphalt mastic material to prevent electrolytic deterioration.

Form drips to the profile indicated, with the edge folded back 1/2 inch to form a reinforced drip edge.

3.5.3 Closures

Install metal closure strips at open ends of metal ridge rolls; open ends of corrugated or ribbed pattern roofs, and at intersection of wall and roof unless open ends are concealed with formed eave flashing; rake of metal roof unless open end has a formed flashing member; and in other required areas.

3.6 WORKMANSHIP

Ensure lines, arises, and angles are sharp and true. Free exposed surfaces from visible wave, warp, buckle, and tool marks. Fold back exposed edges neatly to form a 1/2 inch hem on the concealed side. Ensure that sheet metal that is exposed to the weather is watertight with provisions for expansion and contraction.

Ensure surfaces that are to receive sheet metal are plumb and true, clean, even, smooth, dry, and free of defects and projections which might affect the application. For installation of items not shown in detail or not covered by specifications conform to the applicable requirements of SMACNA 1793. Provide sheet metal flashing in the angles formed where roof decks abut walls, curbs, ventilators, pipes, or other vertical surfaces and wherever indicated and necessary to make the work watertight.

3.7 ACCEPTANCE PROVISIONS

3.7.1 Erection Tolerances

Erect metal roofing straight and true with plumb vertical lines correctly lapped and secured in accordance with the manufacturer's written instructions. Do not vary horizontal lines more than 1/8 inch in 40 feet.

3.7.2 Leakage Tests

Finished application of metal roofing is subject to inspection and test for leakage by the Architect/Engineer. Conduct inspections and tests without cost to the Owner.

Perform inspections and tests promptly after erection to permit correction of defects and the removal and replacement of defective materials.

3.7.3 Repairs Due to Defects in Finish

Immediately remove and replace metal surfaces that are not acceptable to the Architect/Engineer with new material.

3.7.4 Defects in Paint-Finish Metal Roofing

Remove and replace panels that indicate color changes, fading, or surface degradation, determined by visual examination, with new panels at no expense to the Owner.

New panels are subject to the specified tests for an additional year from the date of their installation.

3.8 CLEAN-UP AND DISPOSAL

Clean all exposed sheet metal work at completion of installation. Remove

metal shavings, filings, nails, bolts, and wires from roofs. Remove grease and oil films, excess sealants, handling marks, contamination from steel wool, fittings and drilling debris and scrub the work clean. Ensure exposed metal surfaces are free of dents, creases, waves, scratch marks, solder or weld marks, and damage to the finish coating.

Collect and place scrap/waste materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site; transport demolished materials from owner property and legally dispose of them.

3.9 FIELD QUALITY CONTROL

3.9.1 Manufacturer's Inspection

Ensure manufacturer's technical representative visits the site a minimum of three times during the installation for purposes of reviewing materials installation practices and adequacy of work in place. Make inspections during the first 20 squares of roof panel installation, at mid-point of the installation, and at substantial completion, at a minimum. Additional inspections are required for each 100 squares of total roof area, with the exception that follow-up inspections of previously noted deficiencies or application errors are performed as requested by the Owner. After each inspection, submit a report, signed by the manufacturer's technical representative to the Owner within 3 working days. Note in the report overall quality of work, deficiencies and any other concerns, and recommended corrective action.

3.10 INFORMATION FORM AND PLACARD

Furnish a typewritten information card for facility records and a card laminated in plastic and framed for interior display at roof access point, or a photoengraved 0.032 inch thick aluminum card for exterior display. Format as directed in paragraph titled "Form One".

Provide an information card 8 1/2 by 11 inches minimum, identifying the facility name and number; location; contract number; approximate roof area; detailed roof system description, including deck type, roof panel manufacturer and product name, type underlayment(s), date of completion; installing contractor identification and contact information; manufacturer warranty expiration, warranty reference number, and contact information. Install card at location as directed by the Owner and provide a paper copy to the Owner.

3.11 FORM ONE

-- End of Section --

SECTION 07 42 63

FABRICATED WALL PANEL ASSEMBLIES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION (AAMA)

AAMA 501.1 (2005) Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI S100 (2012) North American Specification for the Design of Cold-Formed Steel Structural Members

AISI SG03-3 (2002; Suppl 2001-2004; R 2008) Cold-Formed Steel Design Manual Set

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 7 (2010; Errata 2011; Supp 1 2013) Minimum Design Loads for Buildings and Other Structures

ASTM INTERNATIONAL (ASTM)

ASTM A653/A653M (2013) Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process

ASTM A792/A792M (2010) Standard Specification for Steel Sheet, 5% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process

ASTM B117 (2011) Standard Practice for Operating Salt Spray (Fog) Apparatus

ASTM C920 (2014a) Standard Specification for Elastomeric Joint Sealants

ASTM D1308 (2013) Effect of Household Chemicals on Clear and Pigmented Organic Finishes

ASTM D2244 (2015) Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates

ASTM D2247	(2011) Testing Water Resistance of Coatings in 100% Relative Humidity
ASTM D2794	(1993; R 2010) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
ASTM D3363	(2005; E 2011; R 2011; E 2012) Film Hardness by Pencil Test
ASTM D4214	(2007) Standard Test Method for Evaluating the Degree of Chalking of Exterior Paint Films
ASTM D522/D522M	(2014) Mandrel Bend Test of Attached Organic Coatings
ASTM D523	(2014) Standard Test Method for Specular Gloss
ASTM D714	(2002; R 2009) Evaluating Degree of Blistering of Paints
ASTM D822	(2001; R 2006) Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings
ASTM D968	(2005; R 2010) Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM E119	(2014) Standard Test Methods for Fire Tests of Building Construction and Materials
ASTM E136	(2012) Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C
ASTM E1592	(2005; R 2012) Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
ASTM E283	(2004; R 2012) Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
ASTM E331	(2000; R 2009) Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E84	(2014) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM G152	(2013) Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

ASTM G153 (2013) Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA)

MBMA MBSM (2002) Metal Building Systems Manual

NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS (NAAMM)

NAAMM AMP 500 (2006) Metal Finishes Manual

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA 1793 (2012) Architectural Sheet Metal Manual, 7th Edition

UNDERWRITERS LABORATORIES (UL)

UL 580 (2006; Reprint Oct 2013) Tests for Uplift Resistance of Roof Assemblies

1.2 DEFINITIONS

Fabricated Wall Panel Assembly: Metal wall panels, attachment system components, metal framing, thermal insulation, and accessories shop fabricated and field assembled for a complete weather-tight wall system.

1.3 DESCRIPTION OF FABRICATED WALL PANEL ASSEMBLY SYSTEM

Factory color finished, galvalume metal wall panel system with concealed fastening attachment. Panel profile must be standing seam and with stiffening ribs in the flat of the panel. Interior finish of panel assembly to be prime painted.

1.3.1 Metal Wall Panel General Performance

Comply with performance requirements, conforming to AISI S100, without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1.3.2 Structural Performance

Maximum calculated fiber stress must not exceed the allowable value in the AISI or AA manuals; a one third overstress for wind is allowed. Midspan deflection under maximum design loads is limited to L/180. Contract drawings show the design wind loads and the extent and general assembly details of the metal siding. Contractor must provide design for members and connections not shown on the drawings. Siding panels and accessories must be the products of the same manufacturer.

Provide metal wall panel assemblies complying with the load and stress requirements in accordance with ASTM E1592. Wind Load force due to wind action governs the design for panels.

Wall systems and attachments are to resist the wind loads as determined by UL 580 and ASCE 7-10 in the geographic area where the construction will take place, in pounds per square foot.

1.3.3 Air Infiltration

Air leakage must conform to the limits through the wall assembly area when tested according to ASTM E283.

1.3.4 Water Penetration Under Static Pressure

No water penetration when tested according to ASTM E331.

1.3.5 Water Penetration Under Dynamic Pressure

No evidence of water leakage when tested according to AAMA 501.1.

1.4 SUBMITTALS

Owner approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Owner. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Qualification of Manufacturer
Qualification of Installer

SD-02 Shop Drawings

Fabrication and Installation drawings for the following items are to indicate completely dimensioned structural frame and erection layouts, openings in the wall, special framing details, and construction details at corners, building intersections and flashing, location and type of mastic and metal filler strips.

Wall Panel Assemblies
Flashing and Accessories
Anchorage Systems

SD-03 Product Data

Certification

Submit Manufacturer's data indicating percentage of recycle material in wall panels to verify sustainable acquisition compliance.

Submit Manufacturer's catalog data for the following items:

Factory Color Finish
Sub-girts and Formed Shapes
Closure Materials
Insulation
Pressure Sensitive Tape
Sealants and Caulking
Accessories

SD-04 Samples

Submit manufacturer's color charts and chips, approximately 4 by 4 inches, showing full range of colors, textures and patterns available for wall panels with factory applied finishes.

SD-05 Design Data

wind design analysis

SD-06 Test Reports

Submit test reports for the following in accordance with the referenced articles in this section.

Leakage Tests
wind load tests

Coatings and base metals of metal wall type of test as specified in paragraphs entitled, "Steel Sheet Materials," and in various referenced standards in this section.

Factory Color Finish Performance Requirements

SD-07 Certificates

Submit certificates for the following items showing conformance with referenced standards contained in this section:

Fasteners

Provide evidence that products used within this specification are manufactured in the United States.

Qualification of Manufacturer

Certify that the manufacturer of the metal wall panel system meets requirements specified under paragraph entitled "Qualification of Manufacturer."

Qualification of Installer

Certify that the applicator meets requirements specified under paragraph entitled "Qualification of Installation Contractor."

Submit the wall system assembly wind load and fire rating classification listings.

SD-08 Manufacturer's Instructions

Installation of Wall panels

Include detailed application instructions and standard manufacturer drawings altered as required by these specifications. Explicitly identify in writing, differences between manufacturer's instructions and the specified requirements.

SD-11 Closeout Submittals

Warranty

Instructions To:
Owner and/or Contractor Personnel

Submit 20 year "No-Dollar-Limit" warranty for labor and materials.

1.5 QUALITY ASSURANCE

1.5.1 Pre-Installation Conference

After submittals are received and approved but before wall panel and insulation work, including associated work, is performed, the Owner will hold a pre-siding conference to review the following:

- a. The drawings, including Fabrication and Installation drawings, showing complete Wall Panel Assemblies, and specifications.
Include details for the following for review:

- flashing and accessories
- anchorage systems
- manufacturer's catalog data
- Factory Color Finish

Submit manufacturer's color charts and chips, approximately 4 by 4 inches, showing full range of colors, textures and patterns available for wall panels with factory applied finishes.

- Sub-girts and Formed Shapes
- Closure Materials, including metal closure strips.
- Insulation
- Pressure Sensitive Tape
- Rated Wall Assembly test data
- Accessories
- Fasteners

- b. Finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
- c. Methods and procedures related to metal wall panel installation, including manufacturer's written instructions for Installation of Wall panels, and verification of wall system assembly wind load and fire rating classification listings.
- d. Support conditions for compliance with requirements, including alignment between and attachment to structural members. Provide details of wind design analysis including wind speed, exposure category, co-efficient, importance factor, designates type of facility, negative pressures for each zone, methods and requirements of attachment. Wind design analysis to include wall plan delineating dimensions and attachment patterns for each zone. Wind design analysis to be prepared and sealed by Licensed Project Engineer in the geographic area where the construction will take place.
- e. Flashing, special siding details, wall penetrations, openings, and condition of other construction that will affect metal wall panels.
- f. Governing regulations and requirements for insurance, certificates, tests and inspections if applicable. Include certification for sustainable acquisition and wall system assembly wind load and fire

rating classification. Safety plan review must include applicable Material Safety Data Sheets.

- g. Temporary protection requirements for metal wall panel assembly during and after installation.
- h. Sample 20 year "No-Dollar-Limit" warranty.

1.5.2 Manufacturer's Technical Representative

The representative must have authorization from manufacturer to approve field changes and be thoroughly familiar with the products and installations in the geographical area where construction will take place.

1.5.3 Qualification of Manufacturer

Metal wall panel system manufacturer must have:

- a. A minimum of five (5) years experience in manufacturing metal wall system and accessory products.
- b. Provide engineering services by an authorized engineer; currently licensed in the geographical area where construction will take place, having a minimum of four (4) years experience as an engineer knowledgeable in wind load design analysis, protocols and procedures for the MBMA MBSM; ASCE 7-10, and ASTM E1592.
- c. Provide certified engineering calculations using the products submitted for:

Wind load requirements in accordance with FM Wind Design Guide and ASCE 7-10.

1.5.4 Qualification of Installer

The installation contractor must be approved and certified by the wall panel manufacturer prior to beginning the installation of the metal wall system.

1.5.5 Single Source

Obtain each type of metal wall and liner panels, clips, closures and other accessories from the standard products of the single source from a single manufacturer to operate as a complete system for the intended use.

1.5.6 Surface-Burning Characteristics

Provide metal wall panels having insulation core material with the following surface-burning characteristics as determined by testing identical products according to ASTM E84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

- a. Flame-Spread Index: 25 or less.
- b. Smoke-Developed Index: 450 or less.

1.5.7 Fire-Resistance Ratings

Where indicated, provide metal wall panels identical to those of assemblies tested for fire resistance per ASTM E119 by a qualified testing

agency. Identify products with appropriate markings of applicable testing agency.

Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
Combustion Characteristics: ASTM E136.

1.5.8 Fabrication

Fabricate and finish metal wall panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

Fabricate metal wall panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weather-tight and minimize noise from movements within panel assembly.

1.5.8.1 Sheet Metal Accessories

Fabricate flashing and trim to comply with recommendations in SMACNA 1793 that apply to the design, dimensions, metal, and other characteristics of item indicated:

- a. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
- b. End Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
- c. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
- d. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
- e. Fabricate cleats and attachment devices of size and metal thickness recommended by SMACNA or by metal wall panel manufacturer for application, but not less than thickness of metal being secured.

1.5.9 Finishes

Comply with NAAMM AMP 500 for recommendations for applying and designating finishes.

Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

1.6 DELIVERY, HANDLING, AND STORAGE

Deliver and package components, sheets, metal wall panels, and other manufactured items so as not to be damaged or deformed and protected during transportation and handling.

Unload, store, and erect metal wall panels in a manner to prevent bending, warping, twisting, and surface damage.

Stack and store metal wall panels horizontally on platforms or pallets, covered with suitable weather-tight and ventilated covering to ensure dryness, with positive slope for drainage of water. Do not store metal wall panels in contact with other materials that might cause staining, denting, or other surface damage.

Retain strippable protective covering on metal wall panel for period of metal wall panel installation.

1.7 PROJECT CONDITIONS

Weather Limitations: Proceed with installation preparation only when existing and forecasted weather conditions permit Work to proceed without water entering into existing building.

Field Measurements: Verify locations of wall framing and opening dimensions by field measurements before metal wall panel fabrication and indicate measurements on Shop Drawings.

1.8 WARRANTY

Furnish manufacturer's no-dollar-limit warranty for the metal wall panel system. The warranty period is to be no less than twenty (20) years from the date of Owner acceptance of the work. The warranty is to be issued directly to the Owner. The warranty is to provide that if within the warranty period the metal wall panel system shows evidence of corrosion, perforation, rupture or excess weathering due to deterioration of the wall panel system resulting from defective materials and correction of the defective workmanship is to be the responsibility of the metal wall panel system manufacturer. Repairs that become necessary because of defective materials and workmanship while metal wall panel system is under warranty are to be performed within 24 hours after notification, unless additional time is approved by the Owner. Failure to perform repairs within 24 hours of notification will constitute grounds for having emergency repairs performed by others and not void the warranty.

PART 2 PRODUCTS

2.1 PANEL MATERIALS

2.1.1 Steel Sheet

Roll-form steel wall panels to the specified profile, with $f_y = 50$ ksi, 24 gauge and depth as indicated. Material must be plumb and true, and within the tolerances listed:

- a. Aluminum-Zinc Alloy-coated Steel Sheet conforming to ASTM A792/A792M and AISI SG03-3.
- b. Individual panels to have continuous length to cover the entire length

of any unbroken wall area with no joints or seams and formed without warping, waviness, or ripples that are not part of the panel profile and free of damage to the finish coating system.

- c. Provide panels with thermal expansion and contraction consistent with the type of system specified.

Profile to be a 2 inch high standing seam, 16 inch coverage, with hand crimping of seams with concealed clips and fasteners.

- 2. Smooth, flat surface texture.

2.1.2 Finish

All panels are to receive a factory-applied polyvinylidene fluoride Kynar 500/Hylar 5000 finish consisting of a baked-on top-coat with a manufacturer's recommended prime coat conforming to the following:

- a. Metal Preparation: All metal is to have the surfaces carefully prepared for painting on a continuous process coil coating line by alkali cleaning, hot water rinsing, application of chemical conversion coating, cold water rinsing, sealing with acid rinse, and thorough drying.
- b. Prime Coating: A base coat of epoxy paint, specifically formulated to interact with the top-coat, is to be applied to the prepared surfaces by roll coating to a dry film thickness of 0.20 plus 0.05 mils. This prime coat must be oven cured prior to application of finish coat.
- c. Exterior Finish Coating: Apply the finish coating over the primer by roll coating to dry film thickness of 0.80 plus 5 mils for a total dry film thickness of 1.00 plus 0.10 mils. This finish coat must be oven-cured.
- d. Interior Finish Coating: Apply a wash-coat on the reverse side over the primer by roll coating to a dry film thickness of 0.30 plus 0.05 mils for a total dry film thickness of 0.50 plus 0.10 mils. The wash-coat must be oven-cured.
- e. Color: The exterior finish chosen from the manufacturer's standard color chart.
- f. Physical Properties: Coating must conform to the industry and manufacturer's standard performance criteria as listed by the following certified test reports:

Chalking:	ASTM D4214
Color Change and Conformity:	ASTM D2244
Weatherometer:	ASTM G152, ASTM G153 and ASTM D822
Humidity:	ASTM D2247 and ASTM D714

Salt Spray:	ASTM B117
Chemical Pollution:	ASTM D1308
Gloss at 60:	ASTM D523
Pencil Hardness:	ASTM D3363
Reverse Impact:	ASTM D2794
Flexibility:	ASTM D522/D522M
Abrasion:	ASTM D968
Flame Spread:	ASTM E84

2.2 METAL FRAMING

2.2.1 General

Cold-formed metallic-coated steel sheet conforming to ASTM A653/A653M.

2.2.2 Fasteners for Miscellaneous Metal Framing

Type, material, corrosion resistance, size and sufficient length to penetrate the supporting member a minimum of 1 inch with other properties required to fasten miscellaneous metal framing members to substrates in accordance with the wall panel manufacturer's and ASCE 7-10 requirements.

2.3 FASTENERS

2.3.1 General

Type, material, corrosion resistance, size and sufficient length to penetrate the supporting member a minimum of 1 inch with other properties required to fasten miscellaneous metal framing members to substrates in accordance with the wall panel manufacturer's and ASCE 7 requirements.

2.3.2 Exposed Fasteners (Premium, Long-Life)

Fasteners for wall panels to be corrosion resistant coated steel or stainless steel compatible with the sheet panel or flashing and of a type and size recommended by the manufacturer to meet the performance requirements and design loads. Fasteners for accessories to be the manufacturer's standard. Provide an integral metal shrouded washer matching the color of attached material with compressible sealing EPDM gasket approximately 3/32 inches thick.

2.3.3 Screws

Screws to be corrosion resistant coated steel, aluminum and/or stainless steel being the type and size recommended by the manufacturer to meet the performance requirements.

2.3.4 Rivets

Rivets to be closed-end type, corrosion resistant coated steel, aluminum or stainless steel where watertight connections are required.

2.3.5 Attachment Clips

Fabricate clips from steel hot-dipped galvanized in accordance with ASTM A653/A653M, or stainless steel. Size, shape, thickness and capacity as required meeting the insulation thickness and design load criteria specified.

2.4 ACCESSORIES

2.4.1 General

All accessories to be compatible with the metal wall panels. Sheet metal flashing, trim, metal closure strips, caps and similar metal accessories must not be less than the minimum thickness specified for the wall panels. Exposed metal accessories/finishes to match the panels furnished, except as otherwise indicated.

2.4.2 Metal Closure Strips

Factory fabricated steel closure strips to be the same gauge, color, finish and profile of the specified wall panel.

2.4.3 Joint Sealants

2.4.3.1 Sealants and Caulking

Sealants are to be an approved gun type for use in hand- or air-pressure caulking guns at temperatures above 40 degrees F (or frost-free application at temperatures above 10 degrees F) with minimum solid content of 85 percent of the total volume. Sealant is to dry with a tough, durable surface skin which permits it to remain soft and pliable underneath, providing a weather-tight joint. No migratory staining is permitted on painted or unpainted metal, stone, glass, vinyl, or wood.

Prime all joints to receive sealants with a compatible one-component or two-component primer as recommended by the wall panel manufacturer.

2.4.3.2 Shop-Applied

Sealant for shop-applied caulking must be an approved gun grade, non-sag one component polysulfide or silicone conforming to ASTM C920, Type II, and with a curing time to ensure the sealant's plasticity at the time of field erection.

2.4.3.3 Field-Applied

Sealant for field-applied caulking must be an approved gun grade, non-sag one component polysulfide or two-component polyurethane with an initial maximum Shore A durometer hardness of 25, and conforming to ASTM C920, Type II. Color to match panel colors.

2.4.3.4 Tape Sealant

Pressure sensitive, 100 percent solid with a release paper backing;

permanently elastic, non-sagging, non-toxic and non-staining as approved by the wall panel manufacturer.

2.5 SHEET METAL FLASHING AND TRIM

2.5.1 Fabrication

Shop fabricate sheet metal flashing and trim where practicable to comply with recommendations in SMACNA 1793 that apply to design, dimensions, metal, and other characteristics of item indicated. Obtain field measurements for accurate fit before shop fabrication.

Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of the Work.

B. Examine primary and secondary wall framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal wall panel manufacturer, UL, ASTM, ASCE 7 and as required for the geographical area where construction will take place.

C. Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.

D. Submit to the Owner a written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.

B. Miscellaneous Framing: Install sub-purlins, girts, angles, furring, and other miscellaneous wall panel support members and anchorage according to metal wall panel manufacturer's written instructions.

3.3 WALL PANEL INSTALLATION

Provide metal wall panels of full length from sill to eave as indicated, unless otherwise indicated or restricted by shipping limitations. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement in accordance with MBMA Metal Building Systems Manual.

- a. Steel Wall Panels: Use stainless-steel fasteners for exterior surfaces and galvanized steel fasteners for interior surfaces.

- b. Anchor Clips: Anchor metal wall panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturer's written instructions.
- c. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal wall panel manufacturer.
- d. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal wall panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal wall panel manufacturer.

Erect wall panel system in accordance with the approved erection drawings, the printed instructions and safety precautions of the manufacturer.

Sheets are not to be subjected to overloading, abuse, or undue impact. Bent, chipped, or defective sheets shall not be applied.

Sheets must be erected true and plumb and in exact alignment with the horizontal and vertical edges of the building, securely anchored, and with the indicated eave, and sill.

Work is to allow for thermal movement of the wall panel, movement of the building structure, and to provide permanent freedom from noise due to wind pressure.

Field cutting metal wall panels by torch, chop saw, or grinder is not permitted.

3.4 FASTENER INSTALLATION

Anchor metal wall panels and other components of the Work securely in place, using manufacturer's approved fasteners according to manufacturer's written instructions.

3.5 FLASHING, TRIM AND CLOSURE INSTALLATION

3.5.1 General Requirements

Comply with performance requirements, manufacturer's written installation instructions, and SMACNA 1793. Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

Sheet metalwork is to be accomplished to form weather-tight construction without waves, warps, buckles, fastening stresses or distortion, and allow for expansion and contraction. Cutting, fitting, drilling, and other operations in connection with sheet metal required to accommodate the work of other trades is to be performed by sheet metal mechanics.

3.5.2 Metal Flashing

Exposed metal flashing is to be installed at building corners, sills and

eaves, junctions between metal siding and walling.

Exposed metal flashing is to be the same material, color, and finish as the specified metal wall panel.

Flashing is to be fastened at not more than 8 inches on center, except where flashing are held in place by the same screws that secure covering sheets.

Flashing is to be furnished in at least 8 foot lengths. Exposed flashing is to have 1 inch locked and blind-soldered end joints, and expansion joints at intervals of not more than 16 feet.

Exposed flashing and flashing subject to rain penetration to be bedded in the specified joint sealant.

Flashing which is in contact with dissimilar metals to be isolated by means of the specified asphalt mastic material to prevent electrolytic deterioration.

Drips to be formed to the profile indicated, with the edge folded back 1/2 inch to form a reinforced drip edge.

3.5.3 Closures

Install metal closure strips at open ends of corrugated or ribbed pattern walls, and at intersection of wall and wall unless open ends are concealed with formed eave flashing; and in other required areas.

3.6 WORKMANSHIP

Make lines, arises, and angles sharp and true. Free exposed surfaces from visible wave, warp, buckle, and tool marks. Fold back exposed edges neatly to form a 1/2 inch hem on the concealed side. Make sheet metal exposed to the weather watertight with provisions for expansion and contraction.

Make surfaces to receive sheet metal plumb and true, clean, even, smooth, dry, and free of defects and projections which might affect the application. For installation of items not shown in detail or not covered by specifications conform to the applicable requirements of SMACNA 1793. Provide sheet metal flashing in the angles formed where roof decks abut walls, curbs, ventilators, pipes, or other vertical surfaces and wherever indicated and necessary to make the work watertight.

3.7 ACCEPTANCE PROVISIONS

3.7.1 Erection Tolerances

Erect metal wall panels straight and true with plumb vertical lines correctly lapped and secured in accordance with the manufacturer's written instructions. Horizontal lines must not vary more than 1/8 inch in 40 feet.

3.7.2 Leakage Tests

Finished application of metal wall panels are to be subject to inspection and test for leakage by the Architect/Engineer. Inspection and tests will be conducted without cost to the Owner.

Inspection and testing is to be made promptly after erection to permit correction of defects and the removal and replacement of defective materials.

3.7.3 Repairs to Finish

Metal surfaces that are not acceptable to the Architect/Engineer are to be immediately removed and replaced with new material.

3.7.4 Defective Paint-Finish Metal Siding

Panels that indicate color changes, fading, or surface degradation, determined by visual examination, must be removed and replaced with new panels at no expense to the Owner.

3.8 CLEAN-UP AND DISPOSAL

Clean all exposed sheet metal work at completion of installation. Remove metal shavings, filings, nails, bolts, and wires from work area. Remove grease and oil films, excess sealants, handling marks, contamination from steel wool, fittings and drilling debris and scrub the work clean. Exposed metal surfaces to be free of dents, creases, waves, scratch marks, solder or weld marks, and damage to the finish coating.

Collect and place scrap/waste materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site; transport demolished materials from Owner property and legally dispose of them.

-- End of Section --